

Welcome to your CDP Water Security Questionnaire 2019

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

Who we are:

Philip Morris International Inc. (PMI) is a leading international tobacco company with a workforce of around 77400 people worldwide as of December 31, 2018. In 2018, our products were sold in over 180 markets. We operated 44 production facilities globally. Our tobacco was sourced from over 350,000 farmers across 27 countries. With executive headquarters in New-York, US and publicly traded (NYSE: PM); PMI has its Operations Center in Lausanne, Switzerland.

What we do:

PMI manufactures and sells cigarettes, smoke-free products and associated electronic devices and accessories, and other nicotine-containing products in markets outside of the United States of America. Our portfolio comprises both international and local brands and is led by *Marlboro*, the world's best-selling international cigarette. In 2018, PMI net revenues amounted to USD 79.8 billion including excise taxes on products worth USD 50.2 billion. 2018 net revenues less excise tax amounted to 29.6 billion USD. 2018 Operating Income was USD 11.4 billion. PMI's 2018 total shipment volume for cigarette and heated tobacco units was 781.7 billion (740.3 billion cigarettes and 41.4 billion heated tobacco units).**

The description above is a summary and is qualified in its entirety by reference to the full text of PMI's Annual Report on Form 10-K for the year ended 2018 filed with the U.S. Securities and Exchange Commission.

Our vision:

We are building our future on smoke-free products that are a much better consumer choice than continuing to smoke cigarettes. Our vision is that these products ultimately replace cigarettes to the benefit of adult smokers, society, our company and our shareholders.

Sustainability:

For PMI, sustainability means creating long-term value while minimizing the negative externalities associated with our products, operations and value chain. We are committed to address the impact on the communities and the environment around our value chain. While operating in a highly regulated environment, we strive to go beyond mere compliance to achieve a sustainable smoke-free future.

In 2018, we conducted a new sustainability materiality analysis, enabling us to re-prioritize our sustainability focus. Climate change and water-related issues including water resources management emerged as key topics and are prioritized in our sustainability strategy.

The engagement beyond our own operations is key, as this is where the most significant environmental sustainability impacts occur, especially when it comes to climate change and water related issues.

1. Our business has a significant, global supply chain organized by five main categories: We have a large agricultural supply chain, ranging from tobacco growers to producers of other agricultural products, such as clove, menthol and guar gum.
2. Another part of the supply chain consists of manufacturers of direct materials used to produce cigarettes and other tobacco products, such as acetate tow (for cigarette filters) and paper (both cigarette paper and for packaging materials).
3. Key to our business are also the manufacturers of machines for our cigarette and heated tobacco products factories, a highly specialized industry.
4. A recently added part of our supply chain consists of the manufacturers of electronic devices for heated tobacco products and e-cigarettes.
5. Finally, we work with thousands of suppliers of goods and services that are not specific to the tobacco business, but essential for any business, such as office equipment etc.

As a responsible business, we want to understand and continuously address potential sustainability issues in our global supply chain. We are working with business partners to proactively identify, manage, and reduce risks, and create shared value.

Remarks for this disclosure:

- In this report, "PMI," "we," "us" and "our" refer to Philip Morris International Inc. and its subsidiaries;
- In this report we reference information reported in the 2019 Proxy Statement dated March 21st 2019;
- Trademarks and service marks in this report are the registered property of, or licensed by, the subsidiaries of Philip Morris International Inc.;
- Reduced-Risk Products - "RRPs" - is the term PMI uses to refer to products that present, are likely to present, or have the potential to present less risk of harm to smokers who switch to these products versus continued smoking. PMI has a range of RRP's in various stages of development, scientific assessment and commercialization
- Materiality: In this report and in related communications, the terms "materiality," "material" and similar terms, when used in the context of economic, environmental, and social topics, are defined in the referenced sustainability standards, and are not meant to correspond to the concept of materiality under the U.S. securities laws and/or disclosures required by the U.S. Securities and Exchange Commission

All data provided refers to calendar year 2018 January 1st to December 31st

W-FB0.1a

(W-FB0.1a) Which activities in the food, beverage, and tobacco sector does your organization engage in?

Processing/Manufacturing
Distribution

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1, 2018	December 31, 2018

W0.3

(W0.3) Select the countries/regions for which you will be supplying data.

- Argentina
- Brazil
- Canada
- Colombia
- Costa Rica
- Czechia
- Dominican Republic
- Ecuador
- Germany
- Greece
- Indonesia
- Italy
- Jordan
- Kazakhstan
- Lithuania
- Malaysia
- Mexico

Netherlands
Pakistan
Philippines
Poland
Portugal
Republic of Korea
Romania
Russian Federation
Senegal
Serbia
South Africa
Switzerland
Turkey
Ukraine
Venezuela (Bolivarian Republic of)

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

USD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Offices and some minor facilities.	We have excluded offices and minor activities/facilities such as finished goods warehouses for which our water footprint is too small. These exclusions are not significant to this disclosure as we estimate that these sites represent less than 2% of our overall blue water usage based on a water footprint screening performed in collaboration with an external consultant. In addition, none of these locations are in high water risk locations according to the WRI Aqueduct Tool.

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Important	<p>According to a study we conducted in 2017-2018, our agricultural supply chain, our other direct materials supply chain and our manufacturing represent respectively 53%, 41% and 6% of our water footprint. As PMI relies on the availability of good quality freshwater for its raw materials, and the manufacturing of its products, we have rated water as important for direct and indirect operations.</p> <p>Indirect: Water is used in PMI's supply chain to grow raw materials. PMI's most critical suppliers in terms of water risks are tobacco growers, paper and cellulose acetate based material suppliers. More than half of our purchased tobacco crops are rainfed, the rest require</p>

			<p>irrigation water to grow. PMI expects its indirect dependency on water to decrease in the future. This will be achieved through collaborations with our suppliers to promote our Good Agricultural Practices (GAP) and Responsible Sourcing Principles (RSP) programs to optimize the use of freshwater resources.</p> <p>Direct: At our manufacturing sites, high quality freshwater is used for WASH (Water Access Sanitation and Hygiene) services, landscape watering, and for manufacturing processes including the preparation of flavors, liquid products, in several stages of the tobacco processing, among others. PMI expects its direct dependency on water to increase in the short future, as the company will transition to smoke-free products which are more water-intensive in their manufacturing processes. To reduce water dependency in the long term, PMI is implementing at its manufacturing facilities technologies to recycle and reuse water such as reverse osmosis and electrodeionization, and efficiency initiatives.</p>
<p>Sufficient amounts of recycled, brackish and/or produced water available for use</p>	<p>Important</p>	<p>Important</p>	<p>Direct: The process to manufacture our smoke-free products requires approximately four times more water per unit of product than conventional cigarettes. Our efforts are geared towards improving water efficiency throughout the process by implementing technologies to recycle and reuse water, and using rainwater harvesting for landscape watering. We use recycled water for example in processing related cooling, cooling towers, boilers, equipment cleaning, and also for landscape irrigation. For this reason, we have rated the importance of recycled water as important. At our manufacturing sites, water is recycled in our waste water treatment plants and used for watering gardens, equipment cleaning and for some production processes where technically possible. PMI expects its dependency on recycled water to have a slight increase in the future. This is related to the expected water needs that PMI will face when transitioning to smoke-free products, which are more water intensive.</p> <p>Indirect: tobacco and other direct material suppliers like paper or cellulose acetate use every opportunity to treat and use recycled or brackish water as part of their processes, which might include secondary uses of water such as for cleaning and maintenance of equipment, operation of equipment, and others depending on the local context. Reducing freshwater</p>

			<p>withdrawn by using recycled water improves our direct and supply chain resilience to water scarcity and increases water availability for surrounding communities, therefore, we have given them a rating of important. Water recycling is gaining importance among our suppliers and we expect it to increase in the future. This is linked to increasing water risks faced by suppliers, who have to mitigate them through increased efficiency in the use of water resources.</p>
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W-FB1.1a

(W-FB1.1a) Which water-intensive agricultural commodities that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodities	% of revenue dependent on these agricultural commodities	Produced and/or sourced	Please explain
Tobacco	More than 80%	Sourced	<p>We purchase tobacco leaf of various types, grades and styles throughout the world. In 2018 our purchases came from more than 350,000 farmers directly contracted either by us or by our third-party leaf suppliers in 27 countries. We contracted farmers directly in several countries, including Argentina, Brazil, Colombia, Ecuador, Italy, Pakistan, the Philippines and Poland. Some of our main tobacco sourcing countries are Argentina, Brazil, China, Italy, Indonesia (mostly for domestic use in kretek products), Malawi, Mozambique, Philippines, Turkey and the United States.</p> <p>In 2018, PMI continued to assess water risks associated with its value chain, as well as to gather water intensity data from the production of its key commodities such as tobacco and timber.</p>
Other, please specify	More than 80%	Sourced	<p>In addition to tobacco leaf, we purchase a wide variety of direct materials from approximately 450 suppliers. In 2018, approximately 50% of our total direct materials were purchased from</p>



<p>Other timber based direct materials</p>		<p>our top eight suppliers. The three most significant timber based direct materials that we purchase are board and paper materials used mostly in packaging, acetate tow used in filter making, and fine paper used in the manufacturing of cigarettes and heated tobacco units.</p> <p>In 2018, PMI continued to assess water risks associated with its supply chain, using for example the WRI aqueduct tool for risk assessment and international databases for water consumption by category, and crosschecking some of the assessment results with key suppliers. The results of this analysis were used as the basis for the development of targets and strategies for supplier engagement as of 2019.</p>
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W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Please explain
<p>Water withdrawals – total volumes</p>	<p>100%</p>	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites. Flow meters are used as methodology to measure volumes of water withdrawals by source and origin in all our sites. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water withdrawals. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually.</p> <p>We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and all facilities by 2025.</p>

Water withdrawals – volumes from water stressed areas	100%	<p>100% of our factory sites are monitored for this water aspect and this is considered part of usual facility management for our sites. Flow meters are used as methodology to measure volumes of water withdrawals by source and origin in all our sites. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water withdrawals. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually.</p> <p>Our water stressed factories have been identified through a water footprint study done in 2017-2018 and in the past through a water screening based on the WRI Aqueduct tool. We became a member of the AWS and our factory in Brazil was certified against the AWS Standard in March 2018. We commit to certify at least 10 facilities by 2020 and all by 2025.</p>
Water withdrawals – volumes by source	100%	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites. Flow meters are used as methodology to measure volumes of water withdrawals by source and origin in all our sites. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water withdrawals. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually.</p> <p>We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and all facilities by 2025.</p>
Water withdrawals quality	26-50	<p>Underground water and municipal water are monitored closely (up to 3 times a month) in respectively 26% of our sites and in our new reduced-risk product (RRP) factories. We collect up to 30 parameters like biochemical oxygen demand (BOD), chemical oxygen demand (COD), salinity, temperature, and chlorine. The rest of the factories receive annual certifications from the relevant authorities on water quality. As part of our new water strategy</p>



		<p>plan, we will progressively extend on-site water measurements for all our sites.</p> <p>We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and all facilities by 2025.</p>
Water discharges – total volumes	100%	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites. PMI uses flow meters to calculate discharges in almost half of its sites, and measures the rest based on consumption values. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water discharges. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually.</p> <p>We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and rest by 2025.</p>
Water discharges – volumes by destination	100%	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites. PMI uses flow meters to calculate discharges and identify volumes by destination in almost half of its sites, and measures the rest based on consumption values. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water discharges. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually.</p> <p>We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified</p>

		against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and all facilities by 2025.
Water discharges – volumes by treatment method	100%	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites PMI uses flow meters to calculate discharges and identify volumes by destination in almost half of its sites, and measures the rest based on consumption values. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water discharges. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually.</p> <p>We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and all facilities by 2025.</p>
Water discharge quality – by standard effluent parameters	100%	<p>100% of our factory sites are monitored for this water aspect and this is considered part of usual facility management for our sites. We do sampling following recognized sampling protocols and laboratory analysis in internal but mostly external accredited lab as a methodology to measure standard effluent parameters. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water discharges. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by third party annually. Some parameters such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), salinity, conductivity, pH, temperature and chlorides are controlled according to local regulatory limits. As part of our water strategy, we will progressively increase the number of parameters controlled and on-line measurements at all of our sites.</p>

Water discharge quality – temperature	26-50	<p>41% of our factory sites are monitored, as part of usual facility management for our sites, for this water aspect and correspond to those discharging into surface or underground water. We follow recognized sampling protocols and do laboratory analysis in internal but mostly external accredited lab as a methodology to measure standard effluent parameters. We assess 100% of our factories against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory regulations associated with water discharges. Monthly water data is input from all sites globally.</p> <p>We monitor all our sites with water treatment and especially those discharging into underground or surface water. Some parameters are biochemical oxygen demand (BOD), chemical oxygen demand (COD), salinity, conductivity, temperature, and bacterial activity. Part of our water strategy plan is to extend the number of parameters controlled and on-line measurements to all our sites.</p>
Water consumption – total volume	100%	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites. The volume is calculated based on the withdrawal and discharges. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and future statutory and regulatory requirements associated with water consumption. Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually.</p> <p>We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and all facilities by 2025.</p>
Water recycled/reused	100%	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites. PMI uses flow meters at the end of the treatment process in its facilities prior to being reused. 100% of our factories are assessed against ISO14001 requirements, helping our sites to demonstrate compliance with current and</p>

		<p>future statutory and regulatory requirements associated with water recycle/reuse Monthly water data from all sites is entered into our EHS data management system, checked quarterly and verified by a third party annually. Optimizing our osmosis water treatment plants and reusing rejected water are examples of initiatives implemented to reuse water in our factories.</p> <p>We became a member of the AWS and our factory in Brazil was certified against the AWS Standard in March 2018. We commit to certify at least 10 facilities by 2020 and all by 2025.</p>
The provision of fully-functioning, safely managed WASH services to all workers	100%	<p>100% of our operational (i.e. factory) sites are monitored for this water aspect and this is considered part of usual facility management for our sites, with measurement being carried out and validated through ISO14001 and OHSAS18001 certification in 100% of the sites. We use global reporting requirements for water data with a central data collection system for all sites. Audits and inspections are undertaken to check minimum requirements set by our internal requirements and certification standards.</p>

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	4,371.4	Higher	<p>In 2018, total withdrawals increased by 5.3% vs. 2017 with 4,152.3 megaliters. The increase was due to the incremental production of our reduced risk products (RRP) which require approximately 4 times more water per unit of product than for conventional cigarettes.</p> <p>In 2018, PMI implemented some initiatives to reduce water use and increase water recovery; however, due to our new manufacturing process, our average water consumption increased from our 4.99m³ in 2017 to 5.36m³ of water for every million units of product equivalent sold. We</p>

			<p>expect the RRP demand and thus production to grow over time, which will continue to increase our water footprint in the near future.</p> <p>To mitigate these impacts, our efforts are geared towards improving water efficiency throughout the process by implementing new process designs, reusing, recycling water and using rainwater harvesting. Besides, we expect medium term decreases once our RRP manufacturing process matures and our recycling and reusing strategy is fully implemented.</p>
Total discharges	2,413	Lower	<p>In 2018, our total discharges decreased by 3% from 2,480.3 megaliters in 2017. Most of the decrease was due to the new reusing and recycling technologies applied to our new reduced risk product factory (RRP) factories.</p> <p>Despite this decrease, we expect short term increases in discharge due to the process to manufacture our reduced risk products (RRP) requiring approximately 4 times more water per unit of product than for conventional cigarettes.</p> <p>To mitigate these impacts, our efforts are geared towards improving water efficiency throughout the process by implementing new process designs, reusing or recycling water, using rainwater harvesting and improving Waste Treatment Plan efficiency. Therefore we expect short term increases of water discharges and medium term decrease once our RRP manufacturing process matures and our recycling and reusing strategy is fully implemented.</p>
Total consumption	1,958.4	Higher	<p>In 2018 our total consumption increased by 17% from 1,672.7 megaliters in 2017. The increase was due the incremental production of reduced risk products (RRP) which require approximately 4 times more water per unit of product than for conventional cigarette.</p> <p>In 2018, PMI implemented some initiatives to reduce water use and increase water recovery; however, due to our new manufacturing process, our average water consumption increased from 4.99m³ in 2017 to 5.36m³ of water for every million units of product sold. We expect RRP demand and thus production to grow over time, which may continue to increase our water footprint in the near future.</p>



			<p>To mitigate these impacts, our efforts are geared towards improving water efficiency throughout the process by implementing technologies to recycle and reuse water, and use rainwater harvesting. Therefore we expect short term increases of water consumption and medium term decrease once our RRP manufacturing process matures and our recycling and reusing strategy is fully implemented.</p>
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W1.2d

(W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	30	Higher	WRI Aqueduct	<p>PMI uses the WRI Aqueduct tool to identify factories that are located in geographies facing water stress. The analysis is carried out annually, and results are used to identify key factories where to implement water efficiency interventions.</p> <p>Using the WRI Aqueduct tool results, we were able to detect those sites with moderate to severe drought risk. Then we calculated the total amount of water withdrawn from those factories vs total withdraws. Based on this study, 30% of our direct factory water withdrawals are from water stressed areas in 2018 vs. 24% in 2017. We perform this study annually to make sure that we maintain our focus on water stressed factories. Water withdrawals increase is due to the higher production of our reduced risk products (RRP) which require around 4 times more water than our conventional cigarettes. This impact has been partially offset by programs that have been implemented in our facilities located in water stressed areas to reduce our water consumption.</p> <p>Our efforts are geared towards improving water efficiency throughout the process by</p>

				implementing new process designs, reusing or recycling water, and using rainwater harvesting.
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W-FB1.2e

(W-FB1.2e) For each commodity reported in question W-FB1.1a, do you know the proportion that is produced/sourced from water stressed areas?

Agricultural commodities	The proportion of this commodity produced in water stressed basins is known	The proportion of this commodity sourced from water stressed basins is known	Please explain
Tobacco	Not applicable	Yes	<p>We do not produce tobacco; we source it as raw material to manufacture our products. To identify water stressed areas we used the WRI Aqueduct tool and we calculate the tobacco volume grown in the areas with an overall physical water risk above 3. Brazil, Malawi and U.S., important tobacco-sourcing countries, were selected to pilot and validate the methodology. Studies will continue through 2020 to further understand local risks including water stress risk and build best practices.</p> <p>In 2017-2018, PMI conducted a water footprint study showing that 53% is due to our agricultural supply chain, 41% to other direct materials supply chain, and 6% to our manufacturing processes. In 2017, water baseline studies were conducted in 60 different tobacco growing areas, representing 90% of our tobacco leaf purchases and we aggregate the data in a baseline database to analyze our tobacco leaf water footprint.</p> <p>In 2018 we increased the number of growing areas under monitoring and the percentage of purchased volume accordingly. A water risk assessment system was developed to identify water stressed areas by using data from our 2017</p>



			and 2018 leaf water footprint studies, the baseline database of 149 growing areas, and global and tailored local risk assessment methodologies and guidelines.
Other commodities from W-FB1.1a, please specify Timber based direct materials	Not applicable	Yes	<p>We do not produce timber based direct materials; we source them as raw materials to manufacture our products.</p> <p>In 2017-2018, PMI conducted a water footprint study showing that 53% is due to our agricultural supply chain, 41% to our other direct materials supply chain, and 6% to our manufacturing processes. We're expanding our water stewardship programs by assessing current and future water-related risks more broadly across our value chain. Using as a base the water footprint study, we calculated the amount of direct timber based materials (papers, boards, acetate tow, etc.) measured in weight and sourced from water stressed areas in 2018.</p> <p>In the next years, we plan to engage with some key suppliers to get specific factory data (such as primary water consumption data, factory locations, etc.), run WRI tool on water stressed locations and collaborate with our suppliers to reduce their impact on water resources and address local water stress risks.</p>

W-FB1.2g

(W-FB1.2g) What proportion of the sourced agricultural commodities reported in W-FB1.1a originate from water stressed areas?

Agricultural commodities	% of total agricultural commodity sourced in water stressed areas	Please explain
Tobacco	10	The percentage of total tobacco sourced from water stressed areas increased by 9% compared to the previous year. This is actually due to improvements in PMI's data collection and risk assessment process, which cover a wider scope of farmers and countries.

		<p>The production of smoke- free products requires less tobacco compared to cigarettes, we therefore, expect to reduce the percentage of tobacco sourced from water stressed areas in the next years. In addition, we are looking at reducing our impacts in water stressed areas by actively collaborating with our suppliers on water efficiency with particular focus on water stress area especially when irrigation practices are used by farmers.</p>
<p>Other sourced commodities from W-FB1.2e, please specify</p> <p>Timber based direct materials</p>	3	<p>The percentage of timber based materials sourced from water stressed areas is similar to last year as we have sourced these materials from the same countries and regions.</p> <p>As part of its water footprint study and water risk assessment, PMI identified that 3% of the timber based direct materials (papers, boards, acetate tow) measured in weight and sourced in 2018 are from water stressed areas. PMI plans to improve its measurement and to include more primary data from additional suppliers.</p> <p>The proportion of materials sourced from water stressed areas may temporarily increase due to improvements in PMI's assessment (similar to changes in tobacco monitoring), we expect however the percentage of timber sourced from water stressed areas to remain about the same in the medium term. We are looking at reducing our impacts in water stressed areas by actively collaborating with our suppliers on water efficiency.</p>

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water	Relevant	19.7	Higher	Even if fresh surface water is globally not so relevant in terms of volume (less than 1% of our total water withdrawals), we consider it relevant

from wetlands, rivers, and lakes				<p>locally since, whenever possible, we use it to reduce water sourced from Municipal waters. In 2018, fresh surface water withdrawals increased by 7.4 megaliters vs. 2017. This rise is mainly due to a new project to use more fresh surface water for steam boilers for cooling, than water from municipalities in our operations in Switzerland. By sourcing fresh surface water untreated and treating it in-house to the required level of quality (with natural means – filtering process and UV treatment), we reduce the use of drinkable water from the municipality that can be better used for household purposes.</p> <p>We expect this source to increase slightly in the next 1 to 5 years based on learnings from the Alliance for Water Stewardship certification of our factory sites and as we implement more water harvesting and water pump technologies where feasible.</p>
Brackish surface water/Seawater	Not relevant			<p>We currently neither use brackish surface water nor seawater and we do not anticipate to use it in the next 3 to 5 years. We indeed require higher quality water for our operations. This is because we use mainly water for WASH facilities, landscape watering, and the utilities process. Currently, a third of our factories are reusing treated wastewater, e.g. in Senegal where treated domestic wastewater is used in toilets.</p> <p>We plan to increase these initiatives in the short to mid-term (1 to 5 years) as we continue to innovate and increase quality of treated wastewater so it can be reused and allow PMI to continue operating without the use of brackish surface water/ seawater.</p>
Groundwater – renewable	Relevant	1,616.3	Higher	<p>Renewable groundwater is relevant to PMI's operations as it represents the second largest source of water for the company's direct operations. Inlet water is currently supplied from two main sources: urban network (63%) of municipalities or private suppliers; and groundwater renewable</p>

			<p>sources (37%) from wells and aquifers, which are metered and verified annually by external auditors.</p> <p>In 2018, 1,616 megaliters were withdrawn from groundwater sources compared to the 1,542 in 2017. The increase was due to the incremental production of our reduced risk products (RRP) which require approximately 4 times more water per unit of product than for conventional cigarettes.</p> <p>The expansion of RRP production may increase the withdrawn volumes from third party sources the short to mid –term (1 to 5 years). We are therefore implementing new technologies to recycle and reuse water to limit the increase in water withdrawal.</p>
Groundwater – non-renewable	Not relevant		<p>We do not currently use non-renewable groundwater and we do not anticipate to use it over the next 3 to 5 years. PMI meets its groundwater demands through withdrawals of renewable groundwater and other renewable sources. This is because we use the majority of our water for WASH facilities, landscape watering, and the utilities process. Currently, a third of our factories are reusing treated wastewater, e.g. in Senegal where treated domestic wastewater is used in toilets.</p> <p>We plan to increase these initiatives in the short to mid-term (1 to 5 years) as we continue to innovate and increase quality of treated wastewater so it can be reused and allow PMI to continue operating without the use of groundwater non-renewable.</p>
Produced/Entrained water	Not relevant		<p>We do not currently use produced or entrained water and we do not anticipate to use it over the next 3 to 5 years. We indeed require higher quality water which can be used onsite. This is because we use the</p>

				<p>majority of our water for WASH facilities, landscape watering, and the utilities process. Currently, a third of our factories are reusing treated wastewater, e.g. in Senegal where treated domestic wastewater is used in toilets.</p> <p>We plan to increase these initiatives in years to come as we continue to innovate and increase quality of treated wastewater so it can be reused and allow PMI to continue operating without the use of produced or entrained water.</p>
Third party sources	Relevant	2,735	Higher	<p>Third party sources represent PMI's main source of water. As the company depends on significant amounts of high quality freshwater, this source of water is considered relevant. Water required for production in our factories is currently sourced from urban network (63%) of municipalities or private suppliers (third party sources) and groundwater wells (37%) from wells and aquifers, which are metered and verified annually by external auditors.</p> <p>In 2018, 2,735 megaliters were sourced from third party sources, 5% more than the 2,597 megaliters in 2017. The increase was due to the incremental production of our reduced risk products (RRP) which require approximately 4 times more water per unit of product than for conventional products.</p> <p>The expansion of RRP production may increase withdrawn volumes from third party sources in the short to mid-term (1 to 5 years). We are therefore implementing new technologies to recycle and reuse water to limit the increase in water withdrawal.</p>

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	567	Higher	<p>Discharges to fresh surface water are relevant because they are a significant amount of PMI's total water discharges, and we have to comply with regulation, including water discharges related ones, in all countries where we operate. We discharge around 23% of wastewater into surface water disposal. Wastewater is equally treated in public and on-site water treatment plants, and then discharged into surface water. In 2018, we discharged 567 megaliters into surface water, a 2% increase vs. 558 megaliters in 2017. This small rise was due to the installation of heat pumps at our Swiss factory, with water withdrawals and discharges from/to a lake. This figure might increase slightly if PMI installs heat pumps in other locations.</p> <p>The increase in reduced risk products (RRP) production, which require more water than conventional products, may also rise discharge volumes in 1 to 5 years. We are implementing new technologies to recycle and reuse water to limit the increase in discharge volume.</p>
Brackish surface water/seawater	Not relevant			<p>We currently neither discharge to brackish surface water nor to seawater and we do not anticipate this to change in the next 3 to 5 years, therefore this water destination is considered to be not relevant. Our operations are not located near brackish surface water or seawater locations. . Onsite audits conducted by our third-party auditor did not reveal any brackish surface water or seawater discharge. We do not foresee any discharge to brackish surface or seawater in the next 1 to 5 years.</p>

				<p>To validate our numbers, PMI's sites are audited annually by SGS and factory visits are part of the onsite verification. This year, SGS traveled to Brazil and Italy. Based on the desktop review and site visits, they have not found brackish surface water or seawater discharges.</p>
Groundwater	Relevant	225.9	Lower	<p>Discharges to groundwater are relevant because they represent a significant amount of PMI's total water discharges. Moreover, PMI has to comply with regulation in all countries where it operates, including that related to water discharges. PMI's overall wastewater discharge to ground water destination is 9%. Wastewater is equally treated between public and onsite wastewater treatment plants.</p> <p>In 2018, groundwater discharges decreased by 7% from 244 megaliters in 2017. The main reason for the reduction is the implementation of new technologies to recycle and reuse water to limit the increase in groundwater discharge in our factories.</p> <p>The increase in reduced risk products (RRP) production, which require more water than conventional products, may also rise discharge volumes in the short to mid-term (1 to 5 years). PMI will continue to implement new technologies to recycle and reuse water to limit the increase in discharge volumes.</p>
Third-party destinations	Relevant	1,620.1	Lower	<p>Discharges to third-party destinations are relevant because they represent the largest share of PMI's total water discharges. Moreover, PMI has to comply with regulation in all countries where it operates, including that related to water discharges.</p> <p>In 2018, third-party discharges decreased by 3% from 1,678 megaliters in 2017 due mainly to the incorporation of new designs, reusing or recycling water to limit the increase in groundwater discharge in our factories.</p>



				<p>The increase in reduced risk products (RRP) production, which require more water than conventional products, may also rise discharge volumes in the short to mid-term (1 to 5 years). PMI will continue to implement new technologies to recycle and reuse water to limit the increase in discharge volumes.</p>
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W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	1-10	Higher	<p>We follow the Reduce, Reuse, Recycle concept in managing water at our manufacturing operations around the world. In 2018 PMI implemented initiatives to reduce water use and increase water recovery in its manufacturing sites, which increased the use of recycled water from 3% in 2017 to 4%.</p> <p>Currently, a third of our factories are reusing treated wastewater, e.g., in Senegal where treated domestic wastewater is used in toilets. The aim of the use of recycled water is to minimize water withdrawals, particularly in locations that are exposed to water risks. We plan to increase these initiatives in the short to mid-term (1 to 5 years) as we continue to innovate and increase quality of treated wastewater so it can be reused. We are implementing new technologies to recycle and reuse water to minimize water discharge. In some facilities PMI uses and measures water recycled mostly for utilities process or for toilet water and % recycled water is calculated using CDP definition.</p> <p>Since most of the water is used only once in utilities and no further recycled and reused we don't have multiple loops or storage to consider. The anticipated future outcome of our water recycling initiatives is the reduction of fresh water dependency, especially in water stressed areas.</p>

W-FB1.3

(W-FB1.3) Do you collect/calculate water intensity for each commodity reported in question W-FB1.1a?

Agricultural commodities	Water intensity information for this produced commodity is collected/calculated	Water intensity information for this sourced commodity is collected/calculated	Please explain
Tobacco	Not applicable	Yes	<p>We do not produce tobacco, we source it as raw materials to manufacture our products. Water intensity is calculated by dividing the total quantity of water (m³) used for irrigation by tobacco farmers supplying tobacco to PMI by total tobacco volume (kg) sourced. The total quantity of water (m³) includes freshwater withdrawn used to irrigate crops. Water withdrawn has been estimated excluding tobacco crops grown in rain fed areas, while considering crops produced with irrigation practices; measuring the water used during seedbed, transplanting, and field growing stages and considering the systems and technologies used.</p> <p>Metrics from the assessment are used to enhance PMI's understanding of water risks within the supply chain, and to build knowledge on water resources management. These metrics are also used to inform the company's water stewardship strategy, and for the development of water efficiency, local context based targets by 2020, which would be specific to water stressed areas.</p>
Other commodities from W-FB1.1a, please specify Timber based direct materials	Not applicable	Yes	<p>We do not produce timber based direct materials, we source them as raw materials to manufacture our products.</p> <p>We calculate our water intensity dividing the water used by our suppliers to produce these commodities using LCA, ecoinvent</p>

			<p>database and direct supplier information and dividing by total weight of direct materials purchased. Our numerator includes freshwater consumed used in our non-agricultural supply chain related with timber based direct materials which require intensively the use of water (cardboard, shipping cases, acetate tow for filters, printshop materials) and excluding rainfed water consumption. Our denominator includes total weight of direct materials purchased.</p>
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W-FB1.3b

(W-FB1.3b) Provide water intensity information for each of the agricultural commodities identified in W-FB1.3 that you source.

Agricultural commodities

Tobacco

Water intensity value (m3)

266

Numerator: Water aspect

Freshwater withdrawals

Denominator: Unit of production

Tons

Comparison with previous reporting year

Higher

Please explain

Water intensity increased by 8% from 2017 due to adjustments to the methodology. PMI increased the number of growing areas reporting water stress data, and refined data collection processes for water withdrawal and irrigation related data. Information related to water intensity is used

by PMI to inform its Good Agricultural Practices (GAP). For example, the company is using this data to establish a baseline of water intensity for tobacco production, and to explore the development of context based water targets.

As part of its strategy to reduce water intensity, PMI supports suppliers to improve their efficiency through the implementation of water conservation plans aimed at the rational use of water resources and incorporating locally defined best available irrigation practices. PMI expects that water intensity values for tobacco production will decrease, as suppliers continue to implement recommendations from the GAP program.

Agricultural commodities

Other sourced commodities from W-FB1.3, please specify

Other direct materials

Water intensity value (m3)

0.05

Numerator: Water aspect

Freshwater consumption

Denominator: Unit of production

Tons

Comparison with previous reporting year

About the same

Please explain

Water intensity values for timber based materials remained about the same as in the past year, as PMI sourced materials from the same countries and regions and about the same volumes. Information related to water intensity is used by PMI to inform its Good Agricultural Practices (GAP) and to identify key suppliers that require additional engagement to improve their water efficiency practices. PMI is also using this information to inform its sustainability strategy and explore the eventual development of context based water targets.

PMI will improve its data gathering processes, incorporating additional growing areas, which could increase the water intensity values in the

short term. However, we expect that our active engagement with suppliers on the topic of water management as part of the GAP program will decrease water intensity in the medium-long term.

W1.4

(W1.4) Do you engage with your value chain on water-related issues?

Yes, our suppliers

Yes, our customers or other value chain partners

W1.4a

(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?

Row 1

% of suppliers by number

76-100%

% of total procurement spend

1-25

Rationale for this coverage

Through our use of Life Cycle Assessments (LCA), water stress, and water footprints, we have identified our agricultural supply chain as currently having our largest potential environmental impact. As tobacco farming represent more than 50% of PMI's water footprint, it is key that we focus on gathering water related information from farmers. We have therefore prioritized engagement with leaf suppliers through our Good Agricultural Practices (GAP) program across in 27 countries. In countries where PMI has several hundreds or thousands of contracted farmers as suppliers, a representative sample is used to collect data. GAP standards are requirements to be met by all those who grow and supply tobacco to PMI, and includes several indicators related to water use and quality. GAP water management practices guide covers water scarcity, local impacts, water efficiency and WASH. Suppliers have to report their data to PMI every year to comply with GAP which is a contractual requirement.

Impact of the engagement and measures of success

PMI requests suppliers to submit annual self-assessment and carries out on-site reviews by a third party. As part of the on-site reviews, PMI check metrics and performance on several indicators including water extraction and quality, use of hazardous pesticides and others. From the data reported in the yearly self-assessments suppliers are expected to improve their performance year on year. They ought to demonstrate continuous improvements and are individually assessed through the use of scorecards. PMI uses individual supplier scorecard as the main method to track their performance for each indicator year on year. Success is measured as the percentage of farmers implementing best practices and the mitigation of water related risks, becoming more resilient. Results from the scorecard are used to inform future sourcing decisions and to allocate volumes to suppliers.

The beneficial outcomes that PMI have gained is to have a more resilient supply chain to water related issues.

Comment

We share and discuss with suppliers and their farmers the relevant findings of our assessment. Going into deeper detail, in 2018 we supported suppliers to conduct local water risk assessments in nine priority areas in Argentina, Brazil, Greece, Indonesia, Italy, Malawi, and the U.S. Water Insights, first collected in 2018, provide additional data to inform our understanding of water-related issues and to develop management actions and targets.

W1.4b

(W1.4b) Provide details of any other water-related supplier engagement activity.

Type of engagement

Innovation & collaboration

Details of engagement

- Encourage/incentivize innovation to reduce water impacts in products and services
- Encourage/incentivize suppliers to work collaboratively with other users in their river basins
- Educate suppliers about water stewardship and collaboration
- Provide training and support on sustainable agriculture practices to improve water stewardship

% of suppliers by number

51-75

% of total procurement spend

76-100

Rationale for the coverage of your engagement

53 % of our blue water footprint is used to grow tobacco required for our products, 41 % is used in the non-tobacco part of our supply chain, and 6 % is used in our manufacturing sites. PMI focuses on these agricultural suppliers (tobacco, timber, paper, and cardboard), as they are the most critical to our business in terms of the relevance of their products, as well as the implications from being exposed to water risks.

In 2018, we continued to roll out the Responsible Sourcing Principles (RSP), communicating directly with key suppliers covering 70% of our total spend by Dec 2018. A Supplier due diligence framework was developed, as well as a platform to monitor and drive improvements in key supplier categories. The implementation of the use of the framework and platform started in January 2019. Furthermore in 2018 we invited our key direct materials suppliers to participate in our CDP Supply Chain program.

Impact of the engagement and measures of success

PMI supports farmers to identify and mitigate risks where they operate and seize water opportunities. In 2018 we supported suppliers to conduct local water risk assessments in nine priority areas in Argentina, Brazil, Greece, Indonesia, Italy, Malawi, and the U.S. In 2018 PMI also sponsored ten solar-powered boreholes, the rehabilitation of hand pumps, sanitation facilities, concrete storage tanks, and rainwater harvesting systems, and we distributed household water treatment products and organized WASH training sessions in 15 villages in Malawi.

With regards to GAP, our tobacco suppliers are expected to demonstrate year on year improvement in their GAP score. Success is measured as the % of farmers implementing best practices as described in GAP, as well as progress towards other water related targets focusing on reducing the use of fertilizers and pesticides. The beneficial outcomes that PMI have gained is to have a more resilient supply chain to water related issues.

Comment

W1.4c

(W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?

PMI engages multiple partners in its value chain including key account customers, external consultants, third party verification companies and other key stakeholders, and uses various methods such as dialogue, development of projects, training on sustainability issues and sustainability materiality assessment. PMI prioritizes engagement with stakeholders who can contribute to minimize the risks within their supply chain (e.g., through the development of initiatives with shared sustainability goals) or to the achievement of PMI's water targets, and create opportunities to collaborate and innovate. We have engaged with key account customers to support their own reduction targets through the CDP supply chain program. We also engage on sustainability topics with other key accounts and stakeholders by responding to supply chain surveys and providing presentations of our water practices. We measure our success through direct feedback from our customers, sustainability topics being sometime part of our business relationship review, as well as the attainment of water targets relevant for them.

Our measure of success is based on the increase interest from our key customers in getting more information from our environmental program and on their willingness to participate in our programs to reduce our water footprint. PMI affiliates perform voluntary awareness and promotion campaigns, with awards and recognition for best practices, in order to increase employees' active participation in environmental programs and to make water footprint reduction part of the company's culture. E. g., the annual eco-week in Turkey and tree planting activities with employees and their families in Argentina. We have a broad number of partners advising on water stewardship, projects implementation and progress tracking. Companies like Quantis, SGS, South Pole, AB Sustain, ERM, BSR, Ecofys or The Carbon Trust among many others are critical to our success in reducing our environmental impact.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

Yes, fines, enforcement orders or other penalties but none that are considered as significant

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

4

Total value of fines

16,159

% of total facilities/operations associated

5

Number of fines compared to previous reporting year

Lower

Comment

PMI had 4 water related fines in 2018, significantly less than the 16 fines in 2017.

W3. Procedures

W-FB3.1

(W-FB3.1) How does your organization identify and classify potential water pollutants associated with its food, beverage, and tobacco sector activities that could have a detrimental impact on water ecosystems or human health?

Although our direct operations use minimal water relative to our whole value chain (6% of total water footprint), we are cognizant of potential water pollutants that may result from our direct processes and supply chain. All of PMI's wastewater is either treated on-site or sent to treatment facilities prior to discharge respecting local legal regulations, limits and other applicable standards.

In PMI we have internal standards on the spill prevention and chemical management in order to prevent water pollution. These standards are integrated in all our factories environmental management systems, and their implementation is certified in the frame of the ISO 14001 certification. These standards dictate that all chemicals are assessed before delivery to the premises based on the MSDS, in case these are hazardous, alternative materials are being evaluated. Based on their properties (health & safety hazards and environmental impacts) they are classified as per local legislation and internal assessment (ex. Toxicity, water hazards, flammability) and are being registered and monitored. For the ones that are classified hazardous to the environment appropriate technical measures are put in place to prevent accidental release (retention basins, leak detectors, secondary contaminant among others). All employees and contractors handling hazardous materials are systematically trained and appropriate spill kits are provided on the areas, as part of the assessment. Underground storage tanks for hazardous materials, are officially avoided, and can only be approved by exemption. Waste water generated in our factories is either directed to authorize treatment plants of the industrial zone or municipality or previously treated onsite through biological/physicochemical process. We have developed high corporate technical standards for the design and operations of these wastewater treatment plants, including the parameters to be monitored in each stage of the treatment but also the type and specifications of the measuring instrumentation. Our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and rest by 2025.

As we strive to treat wastewater from direct operations according to all applicable laws, regulations and standards where PMI operates, we do not expect significant water-related impacts either on humans or ecosystems. However, negative impacts on ecosystems and humans can be caused from the misuse of pesticides in our supply chain, which are used to protect tobacco crops from pests and diseases, can contaminate aquatic systems by surface run-off and leaching. This contamination can be caused by inappropriate management of the pesticides and can have an impact on aquatic life

or fish-eating wildlife, such as depletion of oxygen by eutrophication. Since Highly Hazardous Pesticides (HHPs) can be considered either, carcinogenic, mutagenic, toxic for reproduction, pesticide residues present in watercourses and groundwater can also have an effect on humans through consumption of fish and shellfish that are contaminated by pesticides. To avoid these negative impacts from materializing, PMI requires all those who grow and supply its tobacco to implement Integrated Pest Management (IPM) practices as part of Good Agricultural Practices (GAP) program. PMI's GAP includes a series of principles and measurable standards to be met by all those who grow and supply tobacco to PMI, including the ones related to the use of pesticides such as frequency of use, quantity, and type of pesticides. Where the use of synthetic pesticides is necessary, the supplier must take into account environmental and human health risk where there is a choice of different pesticides. Products of World Health Organization (WHO), toxicity class III and higher (the higher the class, the lower the toxicity level) should preferably be used. Toxicity class II should only be used in well-justified cases, and toxicity class I was prohibited since 2018. Suppliers must have a list of recommended pesticides suitable for the local conditions that cover the most common pests and diseases. The list should include low toxicity and pest-specific products and can use local brand names relevant to the active ingredients listed to ensure greater farmer understanding. This list of pesticides should only include those that are registered for use in tobacco in the country.

To support the elimination of WHO Tox1 and other Highly Hazardous Pesticides, PMI promotes the use of less hazardous alternative pesticides that include biopesticides such as botanicals, microbials, macrobials and semiochemicals. Tobacco suppliers promote the use of low-toxicity and pest-targeted pesticides while avoiding preventative treatments, conducting training and other initiatives with their contracted farmer base.

W-FB3.1a

(W-FB3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your food, beverage, and tobacco sector activities.

Potential water pollutant

Pesticides and other agrochemical products

Activity/value chain stage

Agriculture – supply chain

Description of water pollutant and potential impacts

Pesticides, also called Crop Protection Agents (CPAs), which are used to protect tobacco crops from pests and diseases, can contaminate aquatic systems by surface run-off and leaching and have an impact on aquatic life or fish-eating wildlife, such as depletion of oxygen by eutrophication; pesticide residues present in watercourses and groundwater can also have an effect on humans through consumption of fish and shellfish that are contaminated by pesticides. The contamination can be caused by inappropriate management of the pesticide and can have an impact on the ecosystems according to the toxicological characteristics of the active ingredient.

PMI requests its leaf suppliers to implement Good Agricultural Practice program (GAP) which defines the principles and measurable standards to be met by all those who grow and supply tobacco to PMI. Where the use of synthetic pesticides is necessary, the supplier must take into account environmental and human health risk where there is a choice of different pesticides. Products of World Health Organization (WHO), toxicity class III and higher (the higher the class, the lower the toxicity level) should preferably be used. Toxicity class II should only be used in well-justified cases, and toxicity class I must not be used at all. For example, the insecticide methomyl, classified as WHO Toxicity Class I (WHO TOX1), has been completely eliminated from the production of tobacco destined to PMI. Methomyl, used in the past to control budworms, has been substituted with less hazardous alternatives such as the biopesticide *Bacillus thuringiensis* which has no toxicity for aquatic life and human health. Our supplier must have a list of recommended pesticides suitable for the local conditions that cover the most common pests and diseases. The list should include low toxicity and pest-specific products and can use local brand names relevant to the active ingredients listed to ensure greater farmer understanding. This list of pesticides should only include those that are registered for use in tobacco in the country.

Impacts from potential water pollutants mismanagement could have significant consequences to PMI's tobacco supply chain. This is one of the reasons why PMI has implemented GAP as requirements to all its tobacco suppliers. In 2018, PMI identified that misuse of pesticides could represent around 5% of PMI's modelled water pollution footprint.

Management procedures

- Soil conservation practices
- Crop management practices
- Sustainable irrigation and drainage management
- Fertilizer management
- Pesticide management
- Substitution of pesticides for less toxic or environmentally hazardous alternatives
- Follow regulation standards

Please explain

PMI has in place a global Integrated Pest Management (IPM) program to reduce the use of unnecessary pesticides, also called Crop Protection Agents (CPAs), to promote the use of less hazardous alternatives and to manage them correctly. IPM plans were implemented in all PMI's tobacco sourcing countries. PMI has a target to eliminate the use of CPAs listed in WHO Toxicity Class I (WHO TOX1) by crop 2018, and to phase-out the use of other Highly Hazardous Pesticides (HHPs) as defined by FAO and WHO guidelines by crop 2020. PMI developed tools to support the implementation of the program in collaboration with the not-for-profit Centre for Agriculture and Bioscience International (CABI). In 2016 we developed an IPM Toolbox to support the implementation of IPM program; the Toolbox includes an IPM App and a website with country-specific management factsheets on tobacco pests and diseases and on IPM and CPAs management which are kept up-to-date with new contents. The IPM App has reached around 1,400 users, and the IPM website had more than 8,000 views in 2018. The IPM program provides training to build up knowledge and commitment among field technicians and farmers with a 'train the trainer' approach. A Training Guide on IPM in Tobacco was developed and is available as an eBook. In 2018 over 1000 Field Technicians and 25000 farmers have been trained on CPAs management. A database of global biopesticides and low hazardous CPAs alternatives have been made available to farmers. Impacts from potential water pollutants mismanagement could have significant consequences to PMI's tobacco supply chain. This is one of the reasons PMI has implemented GAP as requirements to all its suppliers.

Through GAP PMI promotes the reduction of the use of unnecessary CPAs, the safe disposal or recycling of empty CPA containers to prevent water contamination, the responsible use of fertilizers and the implementation of soil analysis as a base for farmers to make an efficient use of fertilizers. PMI measures and evaluates success of these initiatives through a series of targets and indicators for the GAP and IPM programs. In 2018, 100% of the tobacco we procured was free of any quantifiable level of residues attributable to the use of WHO TOX1 CPAs, reaching our target of 100% WHO TOX1 CPA free tobacco for the 2018 crop. Furthermore, 88% was free from any other quantifiable HHP residues, showing further progress against our target to completely eliminate the use of HHPs by the 2020 crop.

Potential water pollutant

Fertilizers

Activity/value chain stage

Agriculture – supply chain

Description of water pollutant and potential impacts

Fertilizers are used to improve tobacco yield within PMI's agricultural supply chain, however they can enter groundwater or watercourses, impacting aquatic ecosystems through eutrophication. PMI considers impacts from mismanagement of fertilizers to be of a significant magnitude as the problem involves all of PMI's suppliers of tobacco, for this reason it has implemented the GAP program for all suppliers to comply with.

In 2018, PMI identified that fertilizer leaching from tobacco cultivation could represent up to 62% of PMI's modeled water pollution footprint (non-tobacco supply chain represents an additional 33%).

Management procedures

- Soil conservation practices
- Crop management practices
- Sustainable irrigation and drainage management
- Fertilizer management
- Calculation of fertilizer intensity data
- Follow regulation standards

Please explain

Through its Good Agricultural Practices (GAP) program, PMI promotes a series of practices for suppliers to optimize fertilizer usage and adjust rates to avoid unnecessary applications. For example, PMI encourages the implementation of soil analysis as a basis for farmers to adjust fertilization to meet soil fertility and crop nutritional requirements. GAP principles promote the use of fertilizers with identified sources of origin, with available certificates of analysis, and that comply with regulation standards.

Through GAP, PMI recommends appropriate amounts of fertilizers that can minimize their negative impacts on the environment. PMI also promotes the development of water protection plans that include the implementation of buffer zones where fertilizers are utilized, the avoidance of methods and timing of fertilizer application that may result in leaching, the safe handling and storing of fertilizers to prevent contamination of water. Success of these initiatives is measured and evaluated through the share of contracted farmers (suppliers) that are engaged and/or registered in the initiatives. PMI measures and evaluates success of these initiatives through a series of targets and indicators for the GAP, including the % of farmers implementing best practices as described in GAP.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as a standalone issue

Frequency of assessment

Annually

How far into the future are risks considered?

>6 years

Type of tools and methods used

Tools on the market

International methodologies

Other

Tools and methods used

WRI Aqueduct

Life Cycle Assessment

IPCC Climate Change Projections

Alliance for Water Stewardship Standard
Internal company methods
External consultants

Comment

In 2015, PMI conducted a comprehensive Climate change risk assessment (CCRA) for corporate and asset level, identifying physical risks and opportunities up to 2025-2030; Quantis developed water and risk footprints in 2017 and 2018 respectively. We used the WRI Aqueduct and IPCC Projections to update these annually. In 2017, we joined Alliance for Water Stewardship and certified our Brazilian factory in 2018, to better understand local risks. We are currently certifying additional sites - with 10 factories planned by 2020 and the rest by 2025. Additionally, in 2018 PMI conducted a climate change risk assessment in line with TCFD recommendations. As part of this assessment, PMI identified risks and opportunities for its business under a reference scenario (exploring a decarbonization approach under the existing climate and energy policies) and a 2 degree scenario (aligned with an average global temperature increase below 2 degrees). The assessment considered the importance of water resources for PMI's direct and indirect operations, and looked into several water elements including projected prices of water and their implications, changes in water supply, water stress and others.

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as a standalone issue

Frequency of assessment

Annually

How far into the future are risks considered?

>6 years

Type of tools and methods used

Tools on the market
International methodologies

Other

Tools and methods used

- WRI Aqueduct
- Life Cycle Assessment
- IPCC Climate Change Projections
- Internal company methods
- External consultants

Comment

PMI undertakes an annual water risk assessment which uses internal methodologies, tools on the market and external consultants (South Pole) to identify risks and opportunities in the supply chain. PMI's Global Water Risk Assessment uses tools that are available in the market, including WRI Aqueduct, Water Risk Filter, national databases, and others. As part of this assessment, PMI measures its water footprint using primary and secondary data. In 2018, PM undertook a Local Risk Assessment (LRA) in key markets, where suppliers' water risks were evaluated during a 3-days workshop. The LRA was carried out by South Pole with the objective of identifying granular, and highly relevant local water risk related data together with a variety of stakeholders in order to better understand water risks and their materiality to the areas where PMI sources tobacco. The assessment was carried out for 7 locations, using 17 different indicators to measure physical, regulatory and reputational water risks.

Other stages of the value chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as a standalone issue

Frequency of assessment

Every two years

How far into the future are risks considered?

>6 years



Type of tools and methods used

- Tools on the market
- International methodologies
- Other

Tools and methods used

- WRI Aqueduct
- IPCC Climate Change Projections
- External consultants

Comment

In 2015 external consultants, ERM and Quantis conducted climate change (CC) risk assessment for corporate and asset level physical risks & opportunities up to 2030; water footprints were developed in 2015 and 2018 respectively. We used WRI Aqueduct and IPCC CC Projections to update this annually. We’re expanding to assess current and future water-related risks more broadly across our value chain, such as water scarcity and quality in tobacco growing areas and water demand in cities we manufacture in.

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization’s water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Water availability at a basin/catchment level is relevant since water is a key input that is used in our factories, in filter manufacturing, paper and packaging materials, for staff use and green spaces. Moreover, in our agricultural supply chain water availability is needed for growing tobacco and other timber based commodities. For these, reasons water availability is always included in our risk assessments. For our direct operations, we assess water availability risks through our company level risk assessment

		<p>initiatives. For instance, external consultants, conducted climate change risk assessment (CCRA) for corporate & asset level physical risks & opportunities up to 2030 in 2015 and in 2018; water footprints in 2015 and 2018 respectively. We use the WRI Aqueduct and IPCC Climate Change Projections to update this periodically. We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least 10 facilities by 2020 and the rest by 2025. We are expanding our water programs by assessing current and future water-related risks more broadly across our value chain. These risks include water scarcity and quality in tobacco growing regions, flood risk in warehouse locations and ports, and water demand in cities where we have manufacture.</p> <p>In 2018, PMI undertook a Local Risk Assessment (LRA) in key markets, where suppliers' water risks were evaluated. The LRA was carried out with the objective of identifying granular, and highly relevant local water risks. The assessment was carried out for 7 locations, using 17 different indicators to measure physical, regulatory and reputational water risks.</p>
<p>Water quality at a basin/catchment level</p>	<p>Relevant, always included</p>	<p>Water quality at a basin/catchment level is regarded as relevant since PMI needs to ensure that high quality water is used during the manufacturing of our products to protect our consumers and to meet strict Food and Drug Administration regulations for our reduced risk products. Water quality is also important to our supply chain to ensure high quality raw materials and to protect workers' health and livelihoods by providing access to Water, Sanitation and Hygiene services (WASH). For these, reasons water quality is always included in the risk assessment.</p> <p>PMI assesses this issue through a combination of internal procedures and use of external tools and methodologies. For example, in direct operations PMI assesses the compliance of manufacturing sites with ISO14001 and OHSAS18001 programs and minimum EHS requirements. We have detailed water quality standards for potable water and water used as ingredient in production, which should meet at least the requirements described in the EU directive 98/83/EC or in local legislation if stricter.</p> <p>For its supply chain, PMI uses external tools and external consultants to assess risks associated to water</p>

		<p>quality. For example, PMI uses WRI Aqueduct and IPCC Climate Projections to explore how its supply chain is exposed to physical risks related to quality such as changes in return flow ratio and upstream protected lands, as these could significantly alter the quality of water used by farmers in downstream areas. We have also become a member of the Alliance for Water Stewardship (AWS.) In March 2018, our factory in Brazil was certified against the AWS Standard, which covers water quality at a basin level issues. We commit to certifying at least 10 more factories by 2020 and all PMI operations by 2025.</p> <p>In 2018, PMI undertook a Local Risk Assessment (LRA) in key markets, where suppliers' water risks were evaluated in 7 locations, using 17 indicators to measure physical, regulatory and reputational water risks.</p>
<p>Stakeholder conflicts concerning water resources at a basin/catchment level</p>	<p>Relevant, always included</p>	<p>Our operations withdraw small volumes of water compared with other industries. Nonetheless, stakeholder conflicts concerning water resources at a basin/catchment level always are included in our water risk assessments since access to water and water rights within our supply chains are essential to our operations. Stakeholder conflicts concerning water resources are evaluated through a combination of internal and external methods. For example, PMI works with external consultants to conduct its water footprints, which highlight water hotspots for the company. From this assessment, PMI learned that more than 50% of its water footprint can be attributed to its agricultural supply chain (tobacco represent 53% of PMI's freshwater consumption). PMI complements this analysis through the use of external tools and methods such as WRI Aqueduct and IPCC Climate Change Projections to identify locations facing higher water risks such as water scarcity and extended droughts, which could result in the availability of less water resources, causing potential conflicts with local stakeholders. PMI also includes WASH services for local stakeholders as part of the assessment.</p> <p>In early 2018, we piloted the "WASH Action Plan" for the first time in Malawi, which aims to address inadequate access to WASH services in our leaf supply chain and to identify priority needs and feasible actions. We became a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate and prevent any potential conflicts with local stakeholders. In March 2018, our Brazilian factory was certified against the AWS Standard. Throughout the rest of 2018,</p>

		we started to implement the AWS Standard at a further five sites – in Italy, Portugal, Indonesia, Russia, and Turkey – as part of the program to certify all factories by 2025, with the first ten targeted by 2020.
Implications of water on your key commodities/raw materials	Relevant, always included	<p>Any significant change in tobacco leaf and clove prices, quality and quantity could affect our profitability and our business. Water is a key input for our agricultural supply chain as it is needed for growing tobacco and other timber based materials, therefore we consider the implications of water on our key commodities as relevant and always include this issue in our risk assessments. Implications of water on PMI's key commodities are factored into the risk assessment through a combination of internal company methods, and the use of external methodologies and other tools. Internally, PMI uses indicators from the GAP program to assess different water variables such as water availability, water use and water intensity from production. These indicators are used by all suppliers, with an emphasis on tobacco leaf and clove suppliers. PMI uses WRI Aqueduct and IPCC Climate Projections to explore how its supply chain is exposed to physical risks that could have direct implications on its key commodities, such as the increased occurrence of heatwaves, droughts and floods.</p> <p>In 2018, PMI undertook a Local Risk Assessment (LRA) in key markets, where suppliers' water risks were evaluated. The LRA was carried out with the objective of identifying granular, and highly relevant local water risk related data. The assessment was carried out for 7 locations, using 17 different indicators to measure physical, regulatory and reputational water risks. Additionally, PMI uses water footprint and supplier engagement questionnaires to evaluate how water requirements for the tobacco production change.</p>
Water-related regulatory frameworks	Relevant, always included	<p>Although our direct operations withdraw small volumes of water in comparison to other industries, ensuring compliance with water-related regulatory frameworks is important for our operations, for example to maintain license to operate and to be able to withdraw water/discharge water, and for our agricultural supply chain. We are subject to international, national and local environmental laws and regulations in the countries in which we do business. Therefore, water-related regulatory frameworks are always factored into the water risk assessment.</p> <p>PMI assesses this issue through the use of internal company methods. For example, PMI has specific programs across business units designed to meet and go beyond applicable environmental compliance</p>



		<p>requirements related to water withdrawal, consumption and discharges. As part of these programs, PMI uses a consistent environmental and occupational health, safety and security management system ("EHSS") at all our manufacturing centers. We track compliance through our EHS Systems and regulatory radar screen. PMI also follows the guidelines provided by the EU on maximum limit of chemical substances for drinking water and products (controlled by nearly all the regulatory frameworks), and compliance teams in our water specifications for process water (slurry ingredient and final wash water). All our manufacturing sites are certified with ISO 14001. This certification process ensures that legal requirements are identified and complied with, otherwise the certification cannot be granted. In addition we have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate, and our factory in Brazil was certified against the AWS Standard in March 2018. We have committed to certify at least ten more facilities by 2020 and all of our operations worldwide by 2025 to stay ahead of any water-regulatory frameworks dealing with water abstraction and discharge consents.</p>
<p>Status of ecosystems and habitats</p>	<p>Relevant, always included</p>	<p>The conservation of ecosystems and habitats is key for the preservation of water- related ecosystem services, such as the maintenance of water quality and availability. Thus, the status of ecosystems and habitats are considered relevant for both our operations and agricultural supply chain, and factored into company level risk assessment initiatives.</p> <p>PMI assesses this issue through a variety of methods including the use of internal methodologies (analysis of information from the Good Agricultural Practices (GAP) program) and external consultants. In 2018 we focused our work to enhance understanding of potential impacts on biodiversity (including life on water) from our direct operations and supply chain. From this work, we identified that most of the potential impacts on biodiversity can be found across our supply chain and are caused by the use of fertilizers, pesticides and other land use activities. Having identified these potential threats to biodiversity and ecosystems, we defined a series of indicators to be measured and monitored by suppliers as part of GAP program, including the development of water conservation plans, with the aim to assess both suppliers' potential impact and adherence to GAP. The indicators are aligned with recommendations and standards by the international Institute for Sustainable Development, the Business and Biodiversity Offsets Programme, and the Convention on Biological Diversity. We're expanding our water programs by</p>

		<p>assessing current and future water-related risks more broadly across our value chain.</p> <p>We address the use of our products by adult consumers indirectly. Litter from cigarette butts and packaging is an issue that comes under regular public scrutiny and that also affects reputation. Much of the litter washes into the waterways and causes problems during rain events. In many of our markets, such as the Philippines, Japan and Switzerland, PMI actively supports programs and campaigns for responsible litter disposal.</p>
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	<p>Lack of access to Water, Sanitation and Hygiene services (WASH) poses a risk to farmers' and workers' health and livelihoods. We strive to ensure WASH access in all our facilities and increase availability on our contracted farms. For this, reason access to fully-functioning, safely managed WASH services is always included in the risk assessment through the use of internal company methods and international standards. For our employees, access to WASH is addressed as part of our ISO14001 and OHSAS18001 programs and minimum EHS requirements. PMI tracks compliance with these requirements at the facility level through the use internal reporting tools, and identifies any potential risks that could prevent the company from providing full functioning, safely managed WASH services to all employees. Example of risks that could prevent PMI from providing these services include water scarcity and floods.</p>
Other contextual issues, please specify	Relevant, sometimes included	<p>There are no other contextual water related issues that we have identified. For many years, we have been expanding our water programs and assessing current and future water-related risks more broadly across our value chain. These risks include water scarcity and water quality in tobacco growing regions including Malawi and Brazil, flood risk in major tobacco warehouse locations and ports, and water demand in cities where we have manufacturing facilities. Other contextual issues are not anticipated to be relevant now or in the future, however, we continue to monitor emerging research, run tools like WRI Aqueduct, ask for stakeholder input, and conduct materiality assessments to understand if there are other contextual issues around water that PMI should be engaged on.</p>

W3.3c

(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, always included	<p>Customers are included because they are increasingly expecting brands to manage their environmental impacts, specially related to water management and climate change. Failure to respond to PMI's customers' concerns can negatively impact its business (for example a potential impact on sales).</p> <p>PMI engages customers through a series of methods including ongoing dialogue, corporate communications, formal gatherings, forums and events, reports and consultations. Additionally, we ensure high quality water in our products to protect our customers. We also respect the vulnerability of water resources we use and the role of those resources in the wider community, which may affect the communities where some of our customers live. As such we include customers in our water risk assessments through: i) We are increasingly using life-cycle assessment (LCA) thinking to evaluate options for reducing environmental impacts throughout the entire life-cycle of our products. Considering the transformation of our business with the introduction of our new product offering, Reduced-Risk Products (RRPs), we will expand our LCA to cover the new suite of products including review of water risks.</p> <p>Additionally, in the last 2 years, Quantis has conducted water footprints of our value chain. Our consumer insights research helps us understand the potential market for eco product developments. PMI encourages proper disposal of cigarette butts and heated tobacco units by raising awareness and providing equipment, such as ashtrays and pocket ashtrays. We are improving our understanding of littering behavior, of anti-littering approaches, and of ways to directly reach consumers about this issue. For example, IQOS heated tobacco units are much less littered than cigarette butts.</p>
Employees	Relevant, always included	<p>Employees are included because they are the ones driving the implementation of PMI's goals and targets, they are also the ones managing suppliers. Failure to engage employees could lead to not meeting PMI water related targets.</p> <p>PMI engages its employees on water issues through meetings, capacity building and electronic communications. PMI provides relevant water information such as the release of targets, as well as progress to relevant employees, asks for their feedback. An example of awareness raising sessions are annual eco-weeks held in</p>

		<p>our sites including initiatives like planting trees, recipes for homemade natural soap or advices on saving water at home. Specific company awards such as the Chairman's Award and Excellence Awards, which are either cash or stock, are available for Sustainability and EHS Managers, project teams and other employees who are responsible for water related initiatives and improvements. Other employee engagement activities take place in our AWS certified sites, through awareness campaigns and additional communications on specific risks and opportunities found in the catchment area and how they can contribute at their workplace and at home to mitigate them. We joined the AWS in 2017 and in March 2018, our Brazil factory became the first factory in the country to be AWS certified. We plan to have the 10 factories which ranked highest in our previous risk assessment certified by 2020 and to extend to the rest of our operations until 2025. This will enable further engagement opportunities and support the achievement of our targets. Water quality is also important to protect workers' health and livelihoods by providing access to adequate safe Water, Sanitation & Hygiene services (WASH). We strive to provide access to WASH to all our facilities and contracted farms.</p>
Investors	Relevant, always included	<p>Investors are included because as one of the most important stakeholders they have to be informed on the performance of the company in all aspects. Failure to respond to investors' water concerns would directly translate in financial risks for PMI. PMI engages Investors through various methods including ongoing dialogue on water and sustainability issues, corporate communications and reports, public disclosures such as CDP, ESG ratings such as SAM DJSI, attendance and contributions to forums and events, ad-hoc requests and calls. Another example is the engagement about the results of the water risk assessment, which are shared with investors. We also communicate through our annual sustainability report and website. Our 2018 PMI Sustainability Report is available on our website.</p>
Local communities	Relevant, always included	<p>We respect the vulnerability of water resources we use and the role of those resources in the wider community. Failure to include local communities could result in potential conflicts over water resources especially when water resources are limited in water stressed areas, and particularly in the company's agricultural supply chain. We strive to use our water optimally, taking into account the surrounding water basin context and community demand, therefore local communities are relevant and always included in our water risks assessments.</p> <p>Our approach to working with communities is based on 3 principles - water preservation (management/pollution prevention), innovation (better irrigation/less water intensive seeds), and engagement (safe water, sanitation and hygiene-WASH). As part of PMI's AWS activities, the company consults local communities and stakeholders on</p>

		<p>water issues. In 2018 PMI engaged local communities and other stakeholders as part of its Local Risk Assessment (LRA) to identify granular, highly relevant water risk data at a local level. The format of the LRA is a workshop, which trains suppliers to be able to identify and understand water risks. The capacity building part is really important because it enables PMI to continuously identify and respond to water related risks. The assessment was carried out for Argentina, Greece, Italy, Malawi, Brazil, USA and Indonesia. The pilot in Malawi helped highlight the lack of access to WASH services in small holder farms and we began supporting their access to WASH.</p> <p>We engage with local communities in several ways, including ongoing dialogue, surveys and questionnaires, training, formal gatherings, forums and events, memberships and partnerships, consultation processes and others.</p>
<p>NGOs</p>	<p>Relevant, always included</p>	<p>NGOs are included because they can often provide support and technical expertise to manage PMI's sustainability related risks. Failure to include NGOs could result in a lack of access to local knowledge, which could prevent PMI from meeting its sustainability targets.</p> <p>PMI engages NGOs in a variety of ways, depending on the location of the organization as well as their area of expertise. Engagement methods include ongoing dialogue, consultations and other collaborations on a project basis. We work with several NGOs on a global and local level and we engage with them through training, corporate communication, formal gatherings, forums, events, memberships and partnerships. We are also part of the World Business Council for Sustainable Development (WBCSD), the WeMeanBusiness coalition, and since participating in the UNFCCC COP21 in Paris, we continue to engage externally on our commitments on climate change adaptation and water, including our support to the Paris Agreement.</p> <p>On a local level, we support local NGOs that help address water risks in our manufacturing and agricultural supply chain. For instance, in 2017 we worked with local suppliers and stakeholders, including NGOs such as Verite as part of our efforts to improve the living and working conditions of migrant workers in tobacco growing areas in Mexico. This includes providing access to safe water, sanitation and hygiene (WASH). We also help address water risks locally through our charitable partnerships to support disaster preparedness and relief efforts.</p>

Other water users at a basin/catchment level	Relevant, always included	<p>We strive to use our water optimally, taking into account the surrounding water basin context and water demand. Failure to include other water users could result in potential conflicts over water resources when water resources are limited in water stressed areas, particularly in the company's agricultural supply chain, for example in the growing areas where our farmers use irrigation. Thus, other water users at a basin/catchment level are considered relevant and they are factored through our company level risk assessments.</p> <p>PMI engages with them through a combination of methods, including ongoing dialogue, training, forums and events and other as necessary. Our approach to working with communities is based on 3 principles - water preservation, innovation (better irrigation practices/less water intensive tobacco varieties), and engagement (water access, sanitation and hygiene (WASH)). We also consider other water users at the local level and work to retain our social license to operate. The interaction with local stakeholders is through our: i) Manufacturing operations - We joined the Alliance for Water Stewardship (AWS) in 2017 to better manage water within the local watersheds. One of the key elements of AWS certification is to understand local water risks and opportunities and engage with local stakeholders. For example we organize at least two events during the certification process where we invite water authorities, neighbor factories or NGOs to discuss openly how to improve the local water situation. ii) Agricultural, especially tobacco supply chain – Based on our Good Agricultural Practices (GAP) program, we expect our suppliers to have a water conservation plan that takes into account the management of water for tobacco production to minimize adverse impacts to other users within water catchment areas. The plans also cover access to WASH services for local communities, workers, and their families in growing areas where lack of access is a high risk.</p>
Regulators	Relevant, always included	<p>To be able to operate, PMI needs to ensure compliance with water-related regulatory frameworks in all 31 countries where we manufacture our products. Integral part of our manufacturing sites' ISO14001 certification is the risk and opportunities assessment of each site, where regulators are always considered. Potential increase in taxes, changes in wastewater treatment permits rules, increased requirements for discharged water quantity and quality can have significant impact in our operating cost and permits to operate and that's why this stakeholder is considered relevant.</p> <p>PMI engages regulators through a variety of methods including ongoing dialogue where appropriate and per local regulations, in training, formal gatherings and forums and events. For example in our pilot RRP factory in</p>

		<p>Italy, we have developed a collaborative relationship with the local authority ARPAE / HERA. We engage with them via meetings and visits with an open and transparent attitude. Through discussion we became aware of the opportunity to apply for a temporary exemption for the limits of 3 parameters: COD BOD and total suspended solids, on the wastewater we discharge to the sewage. Without this learning and the efforts that we invested to improve our waste water treatment facility, we would have had an impact on our ability to operate, until the improvements were set up, resulting in losses in production volumes and extra cost.</p> <p>Other examples of engagement includes specific programs and trainings across our business units designed to meet and go beyond applicable environmental compliance requirements and reduce our water consumption. We have a consistent environmental and occupational health, safety and security management system ("EHSS") at all our manufacturing centers. We track compliance through our EHS Systems and regulatory radar screen.</p>
<p>River basin management authorities</p>	<p>Relevant, always included</p>	<p>Ensuring compliance and adherence to river basin management plans is important for our operations and agricultural supply chain in growing tobacco, as PMI is subject to river basin management plans. Therefore, river basin management authorities are regarded as relevant and we work with them when appropriate.</p> <p>River basin management authorities are engaged through a variety of methods including ongoing dialogue and training, formal gatherings, forums and events, consultations and regular ad hoc visits. PMI combines results from these engagement activities with the annual assessment of its factories by ISO14001, allowing our sites to align with current and upcoming local river basin management regulations associated with water withdrawals and wastewater. We have also become a member of the Alliance for Water Stewardship to better understand how to conserve the watersheds where we operate. The AWS standard also requires sites to consider stakeholders' engagement and open dialogue to better understand their needs, including those of river management authorities. Our factory in Brazil was certified against the AWS Standard in March 2018.</p> <p>Throughout the rest of 2018, we started to implement the AWS Standard at a further five sites – in Italy, Portugal, Indonesia, Russia, and Turkey – as part of the program to certify all factories by 2025, with the first ten targeted by 2020. This will allow us to stay ahead of any water-regulatory frameworks dealing with water abstraction and discharge consents.</p>

Statutory special interest groups at a local level	Relevant, sometimes included	<p>We believe a multi-stakeholder approach is key to addressing climate change and water security. In this context, statutory special interests groups are important since they can facilitate the dialogue between stakeholders and provide assistance regarding best water stewardship practices. Thus, statutory special interests groups are regarded as relevant and are engaged through a variety of ad hoc methods.</p> <p>For example, in 2017, we joined the Alliance for Water Stewardship (AWS). In March 2018, our Brazilian factory became the first factory in the country to be certified by AWS. We plan to have the 10 factories which ranked highest in our previous risk certified by 2020; and all operations by 2025. Through this process, we consult with local stakeholders, which may include statutory special interest groups when appropriate.</p> <p>In 2018, PMI supported projects to protect and enhance natural resources, implement conservation agriculture, provide clean water, cater for food security, and improve the livelihoods of people living in rural communities. PMI is partnering with the USAID Malawi-Food for the Future, to diversify smallholder farmers' production away from tobacco and into other food crops, and have joined the Global Agribusiness Alliance. PMI's Charitable Contributions program includes climate change adaptation and mitigation. In Mexico, we supported the Natural Areas and Sustainable Development Civil Partnership aiming at creating new business opportunities for small agricultural producers, increasing their resources management capacity, water availability and knowledge of eco-technology solutions. We signed up multi-stakeholder initiatives on environmental topics such as the Brazilian Business Commitment to Water Security, a coalition of over 20 major companies led by the Brazilian branch of WBCSD, and we committed to implement the AWS Standard and a partnership with tobacco growers to restore degraded river banks (Water Guardian Project).</p>
Suppliers	Relevant, always included	<p>Our suppliers are key partners in achieving our water reduction and stewardship goals. Failure to include suppliers would expose PMI to increased physical water risks, and would prevent the company from achieving its overall sustainability targets including water related ones. Thus, they are regarded as relevant and factored into company level risk assessment initiatives through our Climate Change risk assessment, use of water risk tools, Good Agricultural Practices (GAP), Responsible Sourcing Principles (RSP) and engagement activities with suppliers (directly or through CDP Supply Chain).</p> <p>Suppliers are engaged through a variety of methods and projects including ongoing dialogue, surveys and</p>

		<p>questionnaires, training, corporate communications, consultations, contractual relationships, and other ad hoc activities. An example of this is the development of our blue water footprint by Quantis in the last 2 years, which looked at tobacco growing (irrigation, fertilizers and pesticides usage by the farmers supplying PMI) (53%), supply chain (41%) and our manufacturing practices (6%). By engaging with suppliers, we are reducing our overall water footprint while working with them to be more resilient. Examples of how we partner: i) For tobacco-growing, under GAP, we expect our suppliers to have a water management plan that takes into account the management of water for tobacco production to minimize adverse impacts to other users within water catchment areas. The plans also cover access WASH for local communities, workers, and their families.</p> <p>In 2018, PMI conducted its annual Local Risk Assessment, and shared results with all tobacco suppliers. This action has the objective of advancing conversations in the topic of water risk mitigation, as well as providing additional advice or technical support as needed.</p>
Water utilities at a local level	Relevant, always included	<p>We work closely with local water utilities to track and manage our water usage at large facilities. Failure to do so would expose PMI to water risks associated to lack of accurate data and potential misguide company decisions related to water investments or the accomplishment of water related targets. Where possible, we work to integrate water efficiency projects and reduce our footprint.</p> <p>We engage water utilities at a local level through data collection processes and exchanges to better understand future demands. PMI uses a water self-assessment tool to assess annually all our manufacturing centers serving as a great source for water saving initiatives. In 2017, we joined the Alliance for Water Stewardship (AWS). In March 2018, our Brazilian factory became the first factory in the country to be certified by AWS. We plan to have the 10 factories which ranked highest in our previous risk assessment certified by 2020; and all operations certified by 2025. Through this process, we engage and consult with local stakeholders, including the local water utilities.</p>
Other stakeholder, please specify	Relevant, always included	<p>Through our sustainability materiality process that we undertook in 2018, we asked for input from a broad range of stakeholders on the topic of water. We engage with stakeholders on an ongoing basis in a number of ways. Key stakeholders include the scientific community, investors & shareholders, employees, the business community, media, civil society, farmers & farmworkers, local communities, suppliers, retailers, regulators & governments, and adult consumers. This year, we have also been working to align our work with the SDG's</p>

	<p>including SDG 14 which addresses Life Below Water. To date, we address both the direct and indirect impacts on water from PMI's operations. For example, litter from cigarette butts and packaging is an issue that comes under regular public scrutiny that could potentially negatively affect our brand. Much of the litter washes into the waterways and causes problems during rain events. In many of our markets, such as the Philippines, Japan and Switzerland, PMI actively supports programs and campaigns for responsible litter disposal.</p>
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W3.3d

(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

The Senior Vice President Operations has been tasked by the Board of Directors with responsibility for addressing climate change risk and water related risks as they could result in natural disasters, water scarcity, and agricultural instability, which may impact PMI's ability to operate. The SVP Operations is delegated with operational responsibility, including maintain robust business resiliency, risk and opportunity assessment processes and strategies to support business continuity. The SVP Operations examines and monitors water-related issues, ensuring the integration of the results of risk and opportunity assessment and their management into business direction and strategies, and to form part of our annual and long-range plan, objectives, budget and performances appraisal processes. He receives updates on progress towards objectives and their achievement, in monthly meetings with the Operations Management Team reporting to him, and during quarterly functional reviews.

Annually, our company risk/opportunity identification and management process covers climate and water related physical, regulatory, reputational, geopolitical and market issues. In 2015 PMI performed a comprehensive Climate Change risk assessment (CCRA; water risk due to climate change) of PMI operational sites and key supplier assets (e.g. ports & tobacco growing regions). This comprehensive risk assessment is updated annually through the use of various tools in the market including WRI Aqueduct and IPCC Projections. The analysis covers all PMI's assets and it continues to be expanded to cover a growing set of risks within our supply chain (for example water scarcity, extended droughts, changes in water quality and other). We complemented our understanding by conducting another study in 2017 and 2018 of our blue water footprint which is composed of tobacco farming practices (such as irrigation, fertilizers and pesticides usage) responsible for the 53%, rest of supply chain for the 41% and manufacturing activities for 6%.

The water risk assessment takes place as follows across our value chain:

1. Manufacturing: Beyond compliance and water efficiency, we are looking at the factory within its watershed. In 2017, we joined the Alliance for Water Stewardship (AWS) & certified our Brazilian factory in March 2018. Based on the results of our water risk assessment we set the goal to certify 10 factories (ranked highest in water risk assessment) by 2020 and all our factories by 2025.

2. Supply chain: PMI has a sound system to identify water related risks within its tobacco supply chain. As part of the annual water risk assessment process, PMI undertakes a Global Water Risk Assessment building on internal company methods, national databases and internationally recognized tools in the market (for example WRI Aqueduct). The purpose of the Global Water Risk Assessment is to use globally available and comparable data to evaluate water risks at a high level. PMI collects data from farmers through the use of Water Insights surveys covering around 150 tobacco growing areas globally to improve its understanding of water use and materiality issues for all tobacco growers of PMI's supply chain. Additionally, we carry out a Local Risk Assessment (LRA) which utilizes granular local data to highlight water-related risks and engage local stakeholders during the assessment. In 2018, the LRA was carried out for key suppliers in Argentina, Greece, Italy, Malawi, Brazil, USA and Indonesia, using 17 different indicators to measure physical, regulatory and reputational water risks. PMI also utilizes information on the implementation of its Good Agricultural Practices program, gathered through the industry-wide Sustainable Tobacco Program managed by AB Sustain, an independent supply chain management specialist. The Global Water Risk Assessment was undertaken by PMI in 2018 and the results were shared with tobacco suppliers.

PMI conducted water baseline studies in 60 different tobacco growing geographical areas. Brazil, Malawi and US, important tobacco- sourcing countries were selected to pilot & validate the water risk assessment methodology. LRA were conducted in 2018 and will continue in the future. Outcomes of the water risk assessment are used to inform PMI's internal decision making by highlighting areas within our direct operations or supply chain that require interventions in order to prevent water risks from materializing. This information is used to inform the company's business, sustainability and sourcing strategies, to set objectives and targets where relevant to risk mitigation, as well as to develop water efficiency projects within our facilities or with strategic suppliers. In 2018, results from the water risk assessment were used to develop 7 water reduction projects in Asia Pacific, Europe and Latin America.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, both in direct operations and the rest of our value chain

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

PMI evaluates a “substantive impact” (e.g.: financial or strategic impact) based on a variety of factors including but not limited to the potential impact on financial performance as well as other factors that may affect PMI’s efforts towards a smoke-free future, ultimately replacing cigarettes with smoke-free products.

As part of the Company’s annual Integrated Risk Assessment (IRA) process we have conducted a Climate Change Risk Assessment to evaluate and understand the impact of climate change and water-related issues on PMI businesses. When assessing risks related to climate change and water we consider long term horizons (2030 and 2040 scenarios), multiple climate and water related indicators and impact drivers including but not limited to climate change events that may:

- influence or impact our operations (e.g., raw material sourcing, factories, finished goods distribution);
- affect a large number of areas where we source tobacco and/or other raw materials, impacting the continuity of supply for years, and consequently driving related cost up;
- trigger a competition in resources demand, natural disaster, water scarcity and change in weather patterns, impacting the availability of raw materials.

In 2018 we have performed climate change risk and opportunity assessment following the Taskforce on Climate-Related Financial Disclosures (TCFD) methodology. This allowed the evaluation of transition risks in addition to the physical ones considering impact drivers such as cost, asset efficiency and reputation. As part of our IRA process, we have also put in place an extensive risk control program by which to assess the climate change physical risks including the water related ones. Locations with values exceeding \$30 million range are surveyed by engineers from our property insurer, who provide recommendations to us on the magnitude of environmental risks and the cost of management. Recommendations for risk management are given if the expected reduction in the financial impact of the risk exceeds the cost to comply by a factor of 10 or more. Internally, we focus on recommendations above the \$50 million range as management of identified risks can involve substantial capital investment and disruption to operations including our supply chain.

In 2020+ risk forecasting terms, in relation to our tobacco supply chain, we assumed as substantive risks those with a potential impact in excess of US\$5M or a raw material impact in excess of 1000 metric tons of tobacco leaves. This definition is applicable to PMI's agricultural supply chain. Over the last couple of years, we have been expanding our water programs by first assessing current and future water-related risks more broadly across our value chain. These risks include water scarcity and water quality in tobacco growing regions, flood risk in major tobacco warehouse locations and ports, and water demand in cities where we have manufacturing facilities. Besides our tobacco supply chain, we have developed a water footprint analysis with Quantis to understand water stressed hotspots from which we source materials that are production water intensive. An example of a substantive impact identified is the threat of flooding and cyclones in the Philippines, Russia, Hungary, Italy, and Japan that could cause damage in our manufacturing and warehouse sites estimated in a range of \$10-25M for each location according to our insurer estimation.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	6	1-25	Annually, our company risk/opportunity identification and management process covers regulatory, reputational, physical climate, water, geopolitical and market issues. In 2015, we performed a comprehensive Climate Change risk assessment (CCRA) that highlighted risks for cyclone, floods or severe droughts and a list of factories to be considered as of high risk. The analysis is updated every year.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive impact on your business, and what is the potential business impact associated with those facilities?



Country/Region

Poland

River basin

Wisla

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-25

Comment

Annually, our company risk/opportunity identification and management process covers regulatory, physical climate, water, geopolitical and market issues. In 2015, we performed a comprehensive Climate Change risk assessment (CCRA) that highlighted risks of cyclones, floods or severe droughts and a list of factories to be considered as of high risk.

Country/Region

Indonesia

River basin

Other, please specify

Citarum River Basin & Brantas River Basin

Number of facilities exposed to water risk

3

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-25

Comment

Annually, our company risk/opportunity identification and management process covers regulatory, physical climate, water, geopolitical and market issues. In 2015, we performed a comprehensive Climate Change risk assessment (CCRA) that highlighted risks of cyclones, floods or severe droughts and a list of factories to be considered as of high risk.

Country/Region

Philippines

River basin

Other, please specify

Marikina river basin & San Juan river basin

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-25

Comment

Annually, our company risk/opportunity identification and management process covers regulatory, physical climate, water, geopolitical and market issues. In 2015, we performed a comprehensive Climate Change risk assessment (CCRA) that highlighted risks for cyclone, floods or severe droughts and a list of factories to be considered as of high risk.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Region

Poland

River basin

Wisla

Type of risk

Physical

Primary risk driver

Flooding

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Flood risk assessments are undertaken at the site level to understand how vulnerable sites are to local flooding events through the use of WRI Aqueduct and IPCC Climate Change Projections. On an asset level, we conduct environmental risk assessments (ISO14001) to identify material risks and opportunities, which includes flood risk management and mitigation plans discussed with our insurers. From the risk assessment, PMI identified that its manufacturing facility in the Wisla basin (Poland) is directly exposed to potential disruptions in production capacity due to floods. Despite having a municipal plan in place that began in 2007 to prevent flooding, a major flood caused several casualties in the area in 2010 and affected homes, roads and infrastructure, disrupting plant/production operations and logistics.

This location continues to be ranked as 'high risk' because of the magnitude of previous incidents, the likelihood of these happening again and

the potential impact that could have on PMI's facility (despite no impacts were experienced in 2018). In 2018, our manufacturing facility in the Wisla basin was responsible for the production of around 70 million cigarettes equal to 8% of PMI's total production of cigarettes.

Timeframe

4 - 6 years

Magnitude of potential impact

Low

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

We estimate the relative magnitude at around \$1 M in the short to medium-term (0-5 years) for our Polish operations based on potential disruptions in production capacity and current production data, as well as per our insurance's estimations, although actual losses due to flooding cases remained much below this threshold. This figure also relies on our 2015 company assessment of comprehensive climate change risk assessment (CCRA), in which we assessed sites that are in high flood severity zones and estimated the cost of disruption from downtime and future flood risk. In addition we used information from our 2007 municipal plan and the 2010 flood event.

Primary response to risk

Develop flood emergency plans

Description of response

External providers are contracted annually to develop flood emergency plans that mitigate flood and business continuity risks identified from the water risk assessment. External providers carry out additional flood risk assessments at the site level to further understand how sites are vulnerable to local flooding events. This is followed by the development of a flood emergency plan which is specific to our facility conditions in Poland and addressing the risk of flooding. PMI's insurance and business continuity management plans are informed by this process and designed to mitigate the impacts associated with disruptions that may result from flooding events. PMI further mitigates these risks by having widely distributed operations across the world, which reduce impacts from individual facilities. This process was applied to PMI's facility in Poland.

Cost of response

1,000,000

Explanation of cost of response

This estimated recurring cost of external providers contracted to assess flood and business continuity risk annually and related staff costs. Flood risk assessments are undertaken at the site level to understand how sites are vulnerable to local flooding events. Understanding the scale and nature of this risk and conducting a risk assessment, our insurance and business continuity management plans are designed to mitigate the impacts from short and medium-term (0-5 years) flooding events.

Country/Region

Indonesia

River basin

Other, please specify

Citarum River Basin & Brantas River Basin

Type of risk

Physical

Primary risk driver

Other, please specify

Flooding and cyclones

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Results from PMI's water footprint indicate that manufacturing facilities in Indonesia are the company's second most water intensive in terms of fresh water consumption. We conducted a comprehensive Climate Change risk assessment (CCRA) and reviewed water risk due to climate change, for corporate and asset level physical risks and opportunities up to 2025-2030 of PMI and key supplier assets in 2015. We use the WRI Aqueduct and IPCC Climate Change Projections. On an asset level, we conduct environmental risk assessments (ISO14001) to identify material risks and opportunities, which includes flood risk management and mitigation plans discussed with our insurers. Through these assessments we identified the primary risk drivers in our Indonesian operations are flooding and cyclones. Potential impacts from cyclones could cause loss and/or disruption of production in manufacturing plants, warehouses, 3rd party operations, suppliers and ports, which could have a directly impact PMI's operations. The 3 indicated facilities (Karawang, Sukorejo, Sampoerna Handrolled), were responsible for the production of around 100 million cigarettes, which represents 12% of PMI's total production of cigarettes. These facilities were included due to their relevance for the business and the potential impacts that could be caused by floods and cyclones.

Timeframe

4 - 6 years

Magnitude of potential impact

Medium-low

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

2,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

We estimate the relative magnitude at around \$2 M in the short to medium-term (0-5 years) for our Indonesian operations based on potential disruptions in production capacity and current production data, as well as per our insurance's estimations, although actual losses due to flood and cyclone cases remained much below this threshold. This figure also relies on our 2015 company assessment of comprehensive climate change risk assessment (CCRA), in which we assessed sites that are in high cyclone and flood severity zones and estimated the cost of disruption from downtime and future cyclone and flood risk.

Primary response to risk

Develop flood emergency plans

Description of response

External providers are contracted annually to develop flood emergency plans that mitigate flood and business continuity risks identified from the water risk assessment. External providers carry out additional flood risk assessments at the site level to further understand how sites are vulnerable to local flooding events. This is followed by the development of flood and cyclone emergency plans which are specific to our facilities' conditions in Indonesia and addressing the risks of flooding and cyclones. PMI's insurance and business continuity management plans are informed by this process and designed to mitigate the impacts associated with disruptions that may result from flooding events. PMI further mitigates these risks by having widely distributed operations across the world, which reduce impacts from individual facilities. This process was applied in the 3 indicated manufacturing facilities in Indonesia.

Cost of response

1,000,000

Explanation of cost of response

This estimated recurring cost of external providers used to assess flood and business continuity risk annually and related staff costs. Flood risk assessments are undertaken at the site level to understand how vulnerable sites are to cyclones/local flooding events. Understanding the scale

and nature of this risk and conducting a risk assessment, our insurance and business continuity management plans are designed to mitigate the impacts from short and medium-term (0-5 years) flooding events.

Country/Region

Philippines

River basin

Other, please specify

Marikina river basin & San Juan river basin

Type of risk

Physical

Primary risk driver

Other, please specify

Flooding and cyclones

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Results from PMI's water footprint indicate that manufacturing facilities in the Philippines are the company's most water intensive ones in terms of fresh water consumption. Based on GermanWatch's annual Climate Risk Index, the Philippines is in the top 5 countries most affected by climate change impacts (including cyclones and flooding). In 2015 we conducted a Climate Change risk assessment (CCRA) and reviewed water risk due to climate change, for corporate and asset level physical risks and opportunities up to 2025-2030 of PMI and key supplier assets. We use the WRI Aqueduct and IPCC Climate Change Projections. On an asset level, we conduct environmental risk assessments (ISO14001) to identify material risks/opportunities, which includes flood risk management and mitigation plans discussed with our insurers. Through these assessments we found the primary risk driver to our Philippine operations are flooding and cyclones which could impact production disruptions of more than 10%. Potential for impacts from cyclones could cause loss and/or disruption of production in manufacturing plants, warehouses, 3rd party operations, suppliers and ports which could have a direct impact on the company. The 2 indicated facilities (Marikina and Batangas)

produced around 65 Mio cigarettes, which represents 8% of PMI's total production of cigarettes. These facilities were included due to their relevance for the business and the potential impacts that could be caused by floods and cyclones.

Timeframe

4 - 6 years

Magnitude of potential impact

Medium-high

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

The threat of flooding and cyclones have been especially catastrophic to the Philippines according to GermanWatch's Climate Risk Index. We estimate the potential damage to our manufacturing and warehouse sites at US \$10M in the short to medium-term (0-5 years) based on current production data, as well as per our insurance's estimations. This figure also relies on our 2015 company assessment of comprehensive climate change risk assessment, in which we assessed sites that are in high cyclone and flood severity zones and estimated the cost of disruption from downtime. PMI also used production data from these facilities in 2018.

Primary response to risk

Develop flood emergency plans

Description of response

External providers are contracted annually to develop flood emergency plans that mitigate flood and business continuity risks identified from the water risk assessment. External providers carry out additional flood risk assessments at the site level to further understand how sites are vulnerable to local flooding events. This is followed by the development of flood and cyclone emergency plans which are specific to our facilities' conditions in the Philippines and addressing the risks of flooding and cyclones. PMI's insurance and business continuity management plans are informed by this process and designed to mitigate the impacts associated with disruptions that may result from flooding events. PMI further mitigates these risks by having widely distributed operations across the world, which reduce impacts from individual facilities. This process was applied in our 2 manufacturing facilities in Philippines.

Cost of response

1,000,000

Explanation of cost of response

This estimated recurring cost of external providers used to assess flood and business continuity risk annually and related staff costs. Flood risk assessments are undertaken at the site level to understand how vulnerable sites are to cyclones/local flooding events. Understanding the scale and nature of this risk and conducting a risk assessment, our insurance and business continuity management plans are designed to mitigate the impacts from short and medium-term (0-5 years) flooding events.

W4.2a

(W4.2a) Provide details of risks identified within your value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Region

Indonesia

River basin

Other, please specify

Citarum River Basin & Brantas River Basin

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

Other, please specify

Flooding and cyclones

Primary potential impact

Supply chain disruption

Company-specific description

Water risks due to climate change could have both beneficial and adverse impacts on quality and yield of the crops we use, such as tobacco leaf and cloves. Suppliers of tobacco leaf in Indonesia are exposed to physical climate change risks, with cyclones and flooding being most critical. Tobacco leaf growing is strongly influenced by physical climate change such as changes in temperature and precipitation. Crop losses, quality impacts and supply chain manufacturing restrictions could impact PMI's production and sourcing strategy. This could change our crop buying pattern and result in increased operational cost. Also, clove is an important raw material for PMI to use in our local kretek brands. Indonesia produces over 70% of the world's cloves. Clove yields are complex; harvests can vary by up to 60% over a 4 year harvest cycle. Clove production is weather sensitive, climate changes causing circumstances such as protracted wet season, extreme raining events and flood could impact clove growing areas and be detrimental to plant productivity and cause volatility of yearly country production. This would reduce the supply and increase the price of cloves, affecting PMI manufacturing operations and business directly, being PMI one of the biggest kretek cigarettes producer in Indonesia.

Timeframe

>6 years

Magnitude of potential financial impact

Medium

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

The potential impacts are based on a long term assessment of costs from physical climate change risks related to water issues. We estimate the relative magnitude at around \$3-4 M in the long-term (>6 years) for our Indonesian growers based on supply chain disruptions. This is based on our 2015 company assessment of comprehensive climate change risk assessment (CCRA), in which we assessed sites that are in high cyclone and flood severity zones and estimated the cost of disruption from crop losses, quality impacts and supply chain manufacturing restrictions.

Primary response to risk

Improve alignment of our procurement policy influencing activity with our water stewardship commitments

Description of response

As part of our procurement strategy, we require all tobacco suppliers to follow our Good Agricultural Practices, which helps mitigate water related risks, through the adoption of climate smart agriculture practices. We conduct Local Risk Assessment (LRA) which utilizes granular local data to highlight water-related risks and engaging local stakeholders during the assessment. In 2018, the LRA was conducted for key suppliers in Argentina, Greece, Italy, Malawi, Brazil, USA and Indonesia, using 17 different indicators to measure physical, regulatory and reputational water risks and the results were shared with tobacco suppliers. PMI utilizes the LRA results to implement initiatives with farmers to improve agricultural resiliency to flooding and drought. We also work with our farmers to improve the efficiency of their curing barns, reducing related GHG emissions, which helps mitigate the impact of climate change. In 2018 approximately 19,000 barns were improved in countries including



Indonesia, Pakistan and the Philippines, bringing the total number of barns improved since 2014 to 76,000. We aim to improve a total of 80,000 barns by 2020. In addition, PMI has substantial inventories of tobacco leaf which can help mitigate short term impacts. Our tobacco supply chain is widely spread around the world and there is the opportunity to relocate tobacco crops if some growing areas become more favorable than others.

Cost of response

20,000,000

Explanation of cost of response

The cost of response is based on the budget allocated to manage the Good Agricultural Practices program implementation. The engagement with tobacco and clove suppliers to improve crop management practices in Indonesia is part of it. Also, supplier crop diversification is part of our overall business strategy, however we cannot assign a specific cost to it. We have engaged with our tobacco suppliers to improve crop management practices and are strengthening our supply chain for tobacco at an overall cost of several tens of millions US\$.

Country/Region

Pakistan

River basin

Other, please specify

River Swat and River Indus

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

Drought

Primary potential impact

Supply chain disruption

Company-specific description

The suppliers of tobacco leaf in Pakistan are exposed to physical climate change risks, with drought being most critical. Crop losses, quality impacts and supply chain manufacturing restrictions could impact PMI's production and sourcing strategy, especially in a market as Pakistan where PMI's local affiliate contracts directly tobacco farmers. Tobacco leaf growing is strongly influenced by physical climate change such as changes in temperature and precipitation. Yield, quality and availability of the tobacco crop could be influenced by changes in precipitation and periods of drought. This could change our access to tobacco supplies, impacting our crop buying pattern and increasing operational cost, affecting PMI manufacturing operations and business directly.

Timeframe

>6 years

Magnitude of potential financial impact

Low

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

The potential impacts are based on a long term assessment of costs from physical climate change risks related to water issues. We estimate the relative magnitude at under \$1 M in the long-term (>6 years) for our Pakistan growers based on supply chain disruptions. This is based on our 2015 company assessment of comprehensive climate change risk assessment (CCRA), in which we assessed sites that are in high drought zones and estimated the cost of disruption from crop losses, quality impacts and supply chain manufacturing restrictions.

Primary response to risk

Improve alignment of our procurement policy influencing activity with our water stewardship commitments

Description of response

As part of our procurement strategy, we require all tobacco suppliers to follow our Good Agricultural Practices, which helps to mitigate against water related risks through the adoption of climate smart agriculture practices. We conduct annually a Global Risk Assessment to highlight water-related risks and engaging local stakeholders during the assessment. PMI utilizes the results to implement initiatives on irrigation and soil conservation practices with farmers to improve agricultural resiliency to drought. We also actively research and trial drought tolerant tobacco seed varieties and develop water conservation plans at the farm level. We also work with our tobacco growers to improve the efficiency of their curing barns, reducing related GHG emissions, which helps mitigate the impacts of climate change. In 2018, approximately 19,000 barns were improved in countries including Indonesia, Pakistan and the Philippines, bringing the total number of barns improved since 2014 to 76,000. We aim to improve a total of 80,000 barns by 2020. In addition, our substantial inventories of tobacco leaf can help to mitigate against short term impacts. Our tobacco supply chain is widely spread around the world and there is also some flexibility in terms of the potential to relocate tobacco crops if some growing areas become more favorable than others.

Cost of response

3,500,000

Explanation of cost of response

The cost of response is based on the budget allocated to manage the Good Agricultural Practices program implementation and support provided to farming communities on a water supply project in Pakistan. Also, supplier crop diversification is part of our overall business strategy, however we cannot assign a specific cost to it. We have engaged with our tobacco suppliers to improve crop management practices and are strengthening our supply chain for tobacco at an overall cost of several tens of millions US\$.

Country/Region

Philippines

River basin

Other, please specify

Marikina river basin & San Juan river basin

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

Other, please specify

Drought, flooding and cyclones

Primary potential impact

Supply chain disruption

Company-specific description

Based on GermanWatch's annual Climate Risk Index, the Philippines is in the top 5 countries most affected by climate change impacts (including cyclones and flooding) from 1997-2015 resulting to a loss of \$2.8 B in purchasing power parity to the country from 1996 - 2015. The supplies of tobacco leaf in Philippines, quality impacts, and supply chain manufacturing restrictions could impact PMI's production and sourcing strategy. Tobacco leaf growing is strongly influenced by physical climate change such as changes in temperature and precipitation. Yield, quality and availability of the tobacco crop could be influenced by changes in precipitation and periods of drought. This could change our access to tobacco supplies, impacting our crop buying pattern and increasing operational cost, affecting PMI manufacturing operations and business directly.

Timeframe

>6 years



Magnitude of potential financial impact

Medium

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

The potential impacts are based on a long assessment of costs from physical climate change risks related to water issues. We estimate the relative magnitude at around \$3-4 M in the long-term (>6 years) for our Philippine growers. This is based on our 2015 company assessment of comprehensive climate change risk assessment (CCRA), in which we assessed sites that are in high drought, cyclone and flood severity zones and estimated the cost of disruption from crop losses, quality impacts and supply chain manufacturing restrictions.

Primary response to risk

Improve alignment of our procurement policy influencing activity with our water stewardship commitments

Description of response

As part of our procurement strategy, we require all suppliers to follow our Good Agricultural Practices, which helps to mitigate water related risks, through the adoption of climate smart agriculture practices. We conduct annually a Global Risk Assessment to highlight water-related risks and engage local stakeholders during the assessment. PMI utilizes the results to implement initiatives on irrigation and soil conservation practices with farmers to improve agricultural resiliency to flood and drought. We also actively research drought and flood tolerant tobacco seed

varieties and work with our growers to develop water conservation plans at the farm level. We also support farmers to improve the efficiency of their curing barns, which helps mitigate the impacts of climate change. In 2018, approximately 19,000 barns were improved in countries including Indonesia, Pakistan and the Philippines, bringing the total number of barns improved since 2014 to 76,000. We aim to improve a total of 80,000 barns by 2020. In addition, our substantial inventories of tobacco leaf can help to mitigate against short term impacts. Our tobacco supply chain is widely spread around the world and there is the opportunity to relocate tobacco crops if some growing areas become more favorable than others.

Cost of response

20,000,000

Explanation of cost of response

The cost of response is based on the budget allocated to manage the Good Agricultural Practices program implementation. The engagement with tobacco suppliers and farmers to improve crop management practices in the Philippines is part of it. Supplier diversification is part of our overall business strategy and we cannot assign a specific cost. We have engaged with our tobacco suppliers to improve crop management practices and are strengthening our supply chain for tobacco at an overall cost of several tens of millions US\$.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

Opportunities exist to improve water efficiency in our operations. Our smoke-free products require approximately 4 times more water per unit of product than conventional cigarettes. As PMI is aiming to increase the production of smoke-free products, the company sees improved water efficiency as a strategic priority. For this reason, PMI is aiming to optimize all new process by increasing water recycling and defining specific water quality by use. To seize these opportunities, PMI is implementing technologies such as reverse osmosis and EDI, and a series of initiatives to reduce water use. In 2018, PMI implemented other initiatives to reduce water use and increase water recovery; however, due to our new manufacturing process, our average water consumption increased from our lowest level of 4.0m³ in 2016 to 5.3m³ of water for every million units of product equivalent. As the new manufacturing process matures, we are incorporating new technologies to recycle and reuse water to limit the increase of water discharge. It should take us around 1-3 years to realize these opportunities. Our improvements in water efficiency at PMI manufacturing facilities are driven by a water reduction target. In 2018 PMI implemented 7 water efficiency projects across its manufacturing operations. An example of this is the adaptation of water boilers and cooling towers in Italy, which will now use recycled or treated water to operate. This project is expected to save up to 122,000 m³ per year.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Low-medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

2,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Results from PMI's water footprint assessment carried out by Quantis indicate that potential financial savings linked to water efficiency are around \$2 -3 M USD in the next 1 - 3 years. This cost is calculated through direct financial savings that would be experienced by PMI once investment costs of water efficiency interventions are covered. The Quantis update of the water footprint of our smoke-free products will provide us with a better understanding of opportunities on how to increase water efficiency. In our industry, the possibility of direct cost of water which could result in potential financial impact is low.

Type of opportunity

Resilience

Primary water-related opportunity

Increased resilience to impacts of climate change

Company-specific description & strategy to realize opportunity

Opportunities exist to increase PMI's resilience to the impacts of climate change from direct operations. Our smoke-free products require approximately 4 times more water per unit of product than conventional cigarettes. As PMI is aiming to increase the production of smoke-free and reduced risks products, the company will not only need to increase efficiency within its operations, but ensure that it is resilient to impacts of climate change such as flooding, droughts, extended heatwaves and others that could impact its manufacturing operations. PMI's strategy is to increase the amount of recycled water in its operations, to be less dependent on water withdrawals and increase the company's resilience. In 2018, 73,000 cubic meters of water could be recycled internally (13% of the total site water use), with further increments planned for 2019. PMI implemented 2 projects to increase the use of recycled water in Europe and Latin America. These will be replicated at other sites in the future. In March 2018, our pilot factory became the first factory in Brazil to be AWS certified, and we are expanding its application across our global operations. Throughout the rest of 2018, we started to implement the AWS Standard at a further five sites – in Italy, Portugal, Indonesia, Russia, and Turkey – as part of the program to certify all factories by 2025, with the first ten targeted by 2020.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

The cost of AWS certification varies, however based on cost of AWS assessments and certification audits, it could cost more than \$8.5K per factory. We do see this as a long-term investment that will increase our resilience to water risks due to climate change and it is difficult to determine exactly how much this will save PMI. Based on potential water savings analyzed and projected by our sites as well as potential investments, we estimate this to be around \$1,000,000 for all our operations until 2025. In addition, the AWS process of consulting local communities and stakeholders on water issues helps retain our social license to operate which has a high value even though not quantifiable in dollar terms.

Type of opportunity

Resilience

Primary water-related opportunity

Increased supply chain resilience

Company-specific description & strategy to realize opportunity

PMI estimated that above 90% of its water footprint can be linked to its agricultural supply chain, therefore the company recognizes that this is where the most significant opportunities are. By increasing supply chain resilience, PMI is expecting to improve farmers' conditions, and to prevent physical climate risks such as droughts, extended heatwaves and others from impacting the production of raw materials. PMI's strategy has focused on establishing GAP as a standard for suppliers, and providing technical assistance to partners in the supply chain to prevent and/or mitigate water risks from materializing. To seize these opportunities, PMI yearly assesses its water risks within its supply chain and shares results with key suppliers. In 2018 we supported suppliers to conduct local water risk assessments in nine priority areas in Argentina, Brazil, Greece, Indonesia, Italy, Malawi, and the U.S. PMI uses the results to implement initiatives on irrigation and soil conservation practices with farmers to improve agricultural resiliency to flood and drought. Collective action with our tobacco suppliers and NOGs includes watershed management, e.g. in Brazil, the development of drought and flood tolerant seed varieties, as well as access to water, sanitation, and hygiene (WASH) services for farmers and their workers, e.g. in Malawi. PMI expects that these actions increase the company's and its supply chain resilience to climate change, including water specific impacts.

Estimated timeframe for realization

>6 years

Magnitude of potential financial impact

Low-medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

2,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Good water and irrigation management has a positive effect on crop yield and helps minimize uncertainty in supply. PMI estimates potential financial impacts to be around \$ 2 M USD with long-term impacts (>5 years). This estimation is done by using financial information from PMI's previous water related projects in its supply chain, as well as data annually gathered through the GAP program (for example, baselines on water practices as well as potential for development of water projects).

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, total water accounting data and comparisons with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Philip Morris Polska

Country/Region

Poland

River basin

Wisla

Latitude

50.070762

Longitude

20.026857

Total water withdrawals at this facility (megaliters/year)

185.39

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

107.43

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

77.96

Comparison of consumption with previous reporting year

Higher

Please explain

The water consumption increased from 57.3 to 77.96 megaliters resulting in a 36% increase.

Facility reference number

Facility 3

Facility name (optional)

PMFTC Batangas

Country/Region

Philippines

River basin

Other, please specify

Marikina river basin & San Juan river basin

Latitude

14.129355

Longitude

121.118746

Total water withdrawals at this facility (megaliters/year)

176.35

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

130.92

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

45.44

Comparison of consumption with previous reporting year

Lower

Please explain

The water consumption decreased from 51.5 to 45.44 megaliters, resulting in a 12% decrease as a result of different initiatives for reducing water use.

Facility reference number

Facility 2

Facility name (optional)

Philip Morris Indonesia Karawang

Country/Region

Indonesia

River basin

Other, please specify

Citarum River Basin & Brantas River Basin

Latitude

-6.358696

Longitude

107.289555

Total water withdrawals at this facility (megaliters/year)

261.01

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

155.4

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

105.6

Comparison of consumption with previous reporting year

Higher

Please explain

The water consumption increased from 94 to 105.6 megaliters resulting in a 13% increase.

Facility reference number

Facility 4

Facility name (optional)

Philip Morris Indonesia Sukorejo

Country/Region

Indonesia

River basin

Other, please specify

Citarum River Basin & Brantas River Basin

Latitude

-7.698419

Longitude

112.69915

Total water withdrawals at this facility (megaliters/year)

514.62

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

308.77

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

205.85

Comparison of consumption with previous reporting year

Higher

Please explain

The water consumption increased from 201.2 to 205.85 megaliters resulting in a 2% increase.

Facility reference number

Facility 5

Facility name (optional)

Philip Morris Indonesia Handroll

Country/Region

Indonesia

River basin

Other, please specify

Citarum River Basin & Brantas River Basin

Latitude

-7.331043

Longitude

112.762057

Total water withdrawals at this facility (megaliters/year)

93.04

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

57.59

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

35.45

Comparison of consumption with previous reporting year

Lower

Please explain

The water consumption decreased from 38.9 to 35.45 megaliters resulting in a decrease of 9%, as a result of different initiatives for reducing water use.

Facility reference number

Facility 6

Facility name (optional)

PMFTC Marikina

Country/Region

Philippines

River basin

Other, please specify

Marikina river basin & San Juan river basin

Latitude

14.661436

Longitude

121.128043

Total water withdrawals at this facility (megaliters/year)

172.55

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

1.89

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

170.66

Comparison of consumption with previous reporting year

Higher

Please explain

The water consumption increased from 162.3 to 170.66 megaliters, resulting in a 5% increase.

W5.1a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

Facility reference number

Facility 1

Facility name

Philip Morris Polska

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

185.39

Comment

Facility reference number

Facility 3

Facility name

PMFTC Batangas

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

174.71

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

1.64

Comment

Facility reference number

Facility 2

Facility name

Philip Morris Indonesia Karawang

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

2

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

259.01

Comment

Facility reference number

Facility 4

Facility name

Philip Morris Indonesia Sukorejo

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

514.62

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

0

Comment

Facility reference number

Facility 5

Facility name

Philip Morris Indonesia Handroll

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

1.97

Brackish surface water/seawater

0

Groundwater - renewable

38.16

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

52.91

Comment

Facility reference number

Facility 6

Facility name

PMFTC Marikina

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

172.55

Comment

W5.1b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

Facility reference number

Facility 1

Facility name

Philip Morris Polska

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

107.43

Comment

Facility reference number

Facility 3

Facility name

PMFTC Batangas

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

130.92

Comment

Facility reference number

Facility 2

Facility name

Philip Morris Indonesia Karawang

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

155.4

Comment

Facility reference number

Facility 4

Facility name

Philip Morris Indonesia Sukorejo

Fresh surface water

308.77

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Facility reference number

Facility 5

Facility name

Philip Morris Indonesia Handroll

Fresh surface water

30.09

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

27.51

Comment



Facility reference number

Facility 6

Facility name

PMFTC Marikina

Fresh surface water

0.39

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

1.5

Comment

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name

Philip Morris Polska

% recycled or reused

Less than 1%

Comparison with previous reporting year

About the same

Please explain

This is the second year where PMI measures its volumes of recycled and reused water. Volumes of recycled water in our facility in Poland remained virtually the same, having an increase of less than 1%. PMI expects volumes of recycled and reused water to increase, from the future implementation of water efficiency and conservation initiatives.

Facility reference number

Facility 3

Facility name

PMFTC Batangas

% recycled or reused

Less than 1%

Comparison with previous reporting year

About the same

Please explain

This is the second year where PMI measures its volumes of recycled and reused water. Volumes of recycled water in our facility in Indonesia remained virtually the same, having an increase of less than 1%. PMI expects volumes of recycled and reused water to increase, from the future implementation of water efficiency and conservation initiatives.

Facility reference number

Facility 2

Facility name

Philip Morris Indonesia Karawang

% recycled or reused

11-25%

Comparison with previous reporting year

Lower

Please explain

This is the second year where PMI measures its volumes of recycled and reused water. Volumes of recycled water in our facility in Indonesia was 13% compared to 18% in 2017. Even though we implemented water efficiency programs the improvement compared to 2017 didn't materialize due to operational circumstances. PMI expects volumes of recycled and reused water to increase, from the future implementation of water efficiency and conservation initiatives.

Facility reference number

Facility 4

Facility name

Philip Morris Indonesia Sukojero

% recycled or reused

Less than 1%

Comparison with previous reporting year

About the same

Please explain

This is the second year where PMI measures its volumes of recycled and reused water. Volumes of recycled water in our facility in Indonesia remained virtually the same, having an increase of less than 1%. PMI expects volumes of recycled and reused water to increase, from the future implementation of water efficiency and conservation initiatives.

Facility reference number

Facility 5

Facility name

Philip Morris Indonesia Handroll

% recycled or reused

Less than 1%

Comparison with previous reporting year

About the same

Please explain

This is the second year where PMI measures its volumes of recycled and reused water. Volumes of recycled water in our facility in Philippines remained virtually the same, having an increase of less than 1%. PMI expects volumes of recycled and reused water to increase, from the future implementation of water efficiency and conservation initiatives.

Facility reference number

Facility 6

Facility name

PMFTC Marikina

% recycled or reused

Less than 1%

Comparison with previous reporting year

About the same

Please explain

This is the second year where PMI measures its volumes of recycled and reused water. Volumes of recycled water in our facility in Philippines remained virtually the same, having an increase of less than 1%. PMI expects volumes of recycled and reused water to increase, from the future implementation of water efficiency and conservation initiatives.

W5.1d

(W5.1d) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?

Water withdrawals – total volumes

% verified

76-100

What standard and methodology was used?

100% of sites had EHS&S data verified by external party (SGS). 100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1

Water withdrawals – volume by source

% verified

76-100

What standard and methodology was used?

100% of sites had EHS&S data verified by external party (SGS). 100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1



Water withdrawals – quality

% verified

76-100

What standard and methodology was used?

100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1

Water discharges – total volumes

% verified

76-100

What standard and methodology was used?

100% of sites had EHS&S data verified by external party (SGS). 100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1

Water discharges – volume by destination

% verified

76-100

What standard and methodology was used?

100% of sites had EHS&S data verified by external party (SGS). 100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1

Water discharges – volume by treatment method

% verified

76-100

What standard and methodology was used?

100% of sites had EHS&S data verified by external party (SGS). 100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1

Water discharge quality – quality by standard effluent parameters

% verified

51-75

What standard and methodology was used?

100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1. We are constantly measuring our water discharge in all our affiliates and we are beyond local requirements. Around 51% of our sites have been reviewed by local authorities. Going forward, we are planning to verify them externally as part of our verification process

Water discharge quality – temperature

% verified

51-75

What standard and methodology was used?

We are constantly measuring our water discharge in all our affiliates and we are beyond local requirements. Around 51% of our sites have been reviewed by local authorities. Going forward, we are planning to verify them externally as part of our verification process.

Water consumption – total volume

% verified

76-100

What standard and methodology was used?

100% of sites had EHS&S data verified by external party (SGS). 100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1

Water recycled/reused

% verified

76-100

What standard and methodology was used?

100% of sites had EHS&S data verified by external party (SGS). 100% of our sites have been ISO 14001 certified in 2018, covering 100% of the facilities in W5.1

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

Scope	Content	Please explain
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<p>Row 1</p>	<p>Company-wide</p>	<p>Description of business dependency on water</p> <p>Description of business impact on water</p> <p>Description of water-related performance standards for direct operations</p> <p>Description of water-related standards for procurement</p> <p>Reference to international standards and widely-recognized water initiatives</p> <p>Company water targets and goals</p> <p>Commitment to align with public policy initiatives, such as the SDGs</p> <p>Commitments beyond regulatory compliance</p> <p>Commitment to water-related innovation</p> <p>Commitment to stakeholder awareness and education</p> <p>Commitment to water stewardship and/or collective action</p>	<p>PMI is well aware of the importance of water for the company. Water is used in our manufacturing facilities, our agricultural supply chain, and in the production of other raw materials and supplies, such as paper, electronic devices, and packaging materials. For this reason, PMI has adopted a company-wide water policy, which effectively integrates all the relevant water dimensions of the business.</p> <p>PMI's water policy describes the company's business dependency on water, impacts, water-related performance standards for direct operations and suppliers (in line with PMI's GAP and Sustainable Tobacco Program) and recognizes the linkages between water and other environmental issues such as climate change and biodiversity conservation. PMI uses international standards and widely recognized water initiatives, such as the AWS Standard.</p> <p>PMI is an active member of the AWS; following a successful pilot in Brazil, we are implementing the AWS Standard across all our factories, to promote a more sustainable use of water in the communities where we operate. PMI has active, time bounded water related targets and goals, and is committed to align its efforts with other public initiatives such as the SDGs. For example, SDG 6 is embedded in our Sustainability and Good Agricultural Practices (GAP) programs. PMI has additional commitments which go beyond regulatory compliance, including innovating in the field of water, building water capacities within farmers, providing access to water and sanitation, and taking collective water stewardship action. In our supply chain, water related procurement standards are set forth through our GAP program, our risk assessment process, Water Insights data collection, and Responsible Sourcing Principles. Beyond our efficiency targets in factories, we have outlined a roadmap for taking action with our suppliers and stakeholders, including watershed action and the development of tobacco seed varieties that are drought and flood tolerant.</p>
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		Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	
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W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Board-level committee	PMI's Board of Directors (BoD) and its committees are responsible to foster the long-term success of the company including to set broad corporate policies, strategic direction, and to oversee management, who is responsible for daily operations. In 2018, the BoD mandated the Nominating and Corporate Governance Committee of the Board, composed by 6 BoD members, to oversee PMI's sustainability strategies and performance, including climate change and water-related issues, and a set of initiatives aiming to eliminate unfavourable impacts of our business on the environment and water resources. The Audit Committee of the BoD, composed by 6 BoD members, oversees the assessment and management of the company risks including those related to climate change and water-related issues such as flood or drought, water scarcity, increased pressure on water resources and conflict with other water users affecting our direct operations and/or our supply chain, which may impact PMI's ability to operate.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	<ul style="list-style-type: none"> Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities 	<p>The Board of Directors (BoD) oversees PMI's full range of activities including establishing broad corporate policies, setting strategic direction, and overseeing management, which is responsible for the day-to-day operations of the company. Part of the BoD's oversight is focus on management's efforts to enhance shareholder value responsibly and sustainably. The BoD approves the company's annual budget each year and receives updates on the company's performance and targets against the budget throughout the year including those related to the achievement of sustainability and water targets. The BoD has established various standing Committees to assist with the performance of its responsibilities and is regularly informed on future plans, and significant issues affecting the business including the water related ones. The BoD meets typically 6 times per year with additional meetings held as necessary. The BoD believes that environmental factors, including those related to water resources, social, and governance (ESG) relevant to the company's business are important to PMI's long-term success. Those factors are part of the responsibility of the Board and considered in the evaluation of the annual performances of the company and its management. The BoD is advised on Sustainability matters, including water resources-related issues, by the Nominating and Corporate Governance Committee of the BoD, which oversees the Company's sustainability strategies and performance, including water. The committee met 4 times in 2018. The BoD oversees the management of risks relating to the Company's business. Risk oversight is conducted both by the Committees of the BoD as well as by the full BoD. Management has identified and prioritized a number of key enterprise risks. As part of the risk management process, the Company has established a Corporate Risk Governance Committee ("CRGC") comprising the COO, the CFO, the Vice President and Controller, the Vice President Corporate Audit, and the Vice President and Chief Ethics & Compliance Officer. Management reports on these risks to the appropriate Committee and to the full Board. In 2018, the Company conducted a full-scale reassessment of the strategic</p>

		Setting performance objectives	enterprise risk management program that had been adopted in 2015. Ownership of each of the prioritized risks was assigned to a member of senior management, and oversight of the management of each risk is assigned to a particular Board Committee. The Audit Committee of the BoD was tasked with overseeing the risk management of climate change as it could result in natural disasters, water scarcity, change in weather patterns, agricultural instability, which may impact PMI's ability to operate. A member of the senior management team, the Senior Vice President Operations has been tasked with the responsibility to address the climate change risk, including water resources related risks. Management updated the Board on the progress of the reassessment throughout 2018.
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W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Other C-Suite Officer, please specify
Senior Vice President, Operations

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

Our Senior Vice President Operations (SVP Operations) is a member of PMI's Senior Management Team, reports to PMI's COO and is delegated with operational responsibility. SVP Operations is tasked to address climate change risks, including physical water risks, natural disasters, water scarcity, and agricultural instability, which may impact PMI's ability to operate. SVP Operations examines and monitors water

related issues ensuring the integration of risk assessment and management into long-range plan, objectives, budget and performance review processes. In 2018 the SVP Operations created the Operations Sustainability Function reporting directly to him and tasked to drive environmental strategies and their full integration into the business. He receives updates on progress towards objectives and their achievement, in monthly meetings with the Operations Management Team reporting to him, and during quarterly functional reviews of the Operations Sustainability function.

Name of the position(s) and/or committee(s)

Chief Operating Officer (COO)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The Chief Operating Officer is a member of PMI's Senior Management Team and reports to CEO; he is updated on a regular basis on climate change risks, including water resources related issues by the SVP Operations who assesses and manages water resources related risks and opportunities. In 2018, the Chief Operating Officer and Senior Vice President Operations were the highest level of management in water resources-related issues and responsible for reviewing and monitoring PMI's objectives, strategies and action plans related to climate change and water related issue with the CEO, and reported to the Nominating and Corporate Governance Committee and Audit Committee of the Board of Directors.

Name of the position(s) and/or committee(s)

Sustainability committee

Responsibility



Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Half-yearly

Please explain

Our Senior Management Team is responsible for leading, overseeing and reviewing the Company’s sustainability activities, including climate and water-related issues – strategy, key programs, objectives and budget — through a cross-functional representation: the Sustainability Committee led by the Chief Sustainability Officer, who reports to the President External Affairs & General Counsel, a member of PMI’s Senior Management Team.

The Sustainability Team strives to equip PMI with the relevant know-how and expertise in view of the changing nature of our business. From an operational perspective, the Sustainability Team manages and coordinates our sustainability work, including water resources-related issues, across PMI functions and regions seeking to ensure it is embedded at all levels of the organization. Most of the coordination takes place in the context of sustainability working groups and with local market coordinators.

W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

Yes

W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a

(W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Who is entitled to benefit from these incentives?	Indicator for incentivized performance	Please explain
Monetary reward	Corporate executive team	Reduction of product water intensity	Our CEO specifically covers sustainability results including EHS results (water reduction targets) in the assessment of our annual company-wide performance. Accordingly, these

	Chief Executive Officer (CEO) Other, please specify Sustainability Managers, Employees	Efficiency project or target – upstream in the value chain Increasing access to workplace WASH	<p>results are included in our overall performance rating which determines the cash bonuses for the management group and other eligible employees.</p> <p>Executive management covering sustainability, including EHS topics are specifically appraised each year for performance against targets, including those related to water. The assessment of EHS results (which includes annual performance against our water reduction targets) directly influences the annual performance rating of our SVP Operations and certain members of our Management Team including the COO and business unit managers. This covers the annual cash incentive compensation elements for those roles. These indicators were selected as they are aligned with the company's vision and they allow PMI to objectively quantify the progress of the company in the field of water and sustainability.</p> <p>PMI uses progress towards its sustainability targets as the threshold of success, therefore rewards are provided if progress is either linear to the overall target, or exceeding a linear trend. This is measured by a series of indicators including results from PMI's water footprint, water data, as well as other internal metrics such as the rapid progress towards the acceleration of our smoke free vision.</p>
Recognition (non-monetary)	Other, please specify Sustainability Managers, Employees	Reduction of product water intensity Efficiency project or target – upstream in the value chain Increasing access to workplace WASH	<p>Behavior change related indicator. Annually many affiliates continued to perform voluntary awareness and promotion campaigns/ programs in order to increase employees' active participation in sustainability and EHS programs and to make water stewardship part of the company's culture. Awards and recognition for best practices form a core element of such campaigns Water reduction project; Operations employees also have the opportunity to earn awards for best practice initiatives in the areas of water consumption reduction and water efficiency. This forms part of our Operations "Lead, Lean and Learn" (3L) program which encourages innovation, continuous improvement and employee engagement. Reduction of water intensity, efficiency projects and targets, and increasing access to workplace WASH were selected as indicators of success as they are aligned with the company's vision and they allow PMI to objectively quantify the progress of the company in the field of water and sustainability.</p>

			PMI uses progress towards its sustainability targets as the threshold of success, therefore rewards are provided if progress is either linear to the overall target, or exceeding a linear trend. This is measured by a series of indicators including results from PMI's water footprint, water data, as well as other internal metrics such as the rapid progress towards the acceleration of our smoke free vision.
Other non-monetary reward	No one is entitled to these incentives		

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, trade associations

Yes, other

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

PMI operates within an overarching Code of Conduct, which we call our Guidebook for Success, and a set of internal policies. This Code of Conduct and policies cover our mandatory requirements and processes in relation to Sustainability including Environment, Health and Safety, which comprises our water strategy; corporate contributions; and interaction with government officials, amongst others. As part of these management controls, we conduct due-diligence to ensure consistency with our Code and Principles, and to check potential compliance and reputational issues when joining trade associations. We belong to many carefully selected business and trade associations around the world. We work with these groups because they represent our industry and the larger business community in policy discussions on issues where we have a common interest or objective. Our support to these organizations and groups complies with applicable laws and our own principles. We routinely evaluate our participation to ensure that the groups' objectives align with the long-term interests of PMI and its shareholders, and that their activities continue to reflect PMI's values and standards

of conduct. There are times when we may not agree with certain positions adopted by the organizations we support. In these instances, we may choose to withdraw our participation or support. PMI also could withdraw its support, or participation if inconsistencies with its Code of Conduct or policies are discovered.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

No, but we plan to do so in the next two years

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	16-20	PMI includes a variety of water issues into its long term business objectives, identifying water risks/opportunities and their proper management. An example of this is the inclusion of water variables within our overall business objectives, and as part of climate change risk management (assessing how physical water risks such as droughts, floods and cyclones can impact PMI's value chain). One of PMI's goals is to minimize the amount of water used per unit manufactured (cigarette or heated tobacco unit). As we continue to roll out our smoke-free vision, we will develop water reduction targets for the manufacturing of Reduced Risks Products which we expect to become PMI's main product in the future. The Sustainability Team undertakes annual strategy reviews based on sustainability materiality and climate change and water risk/opportunity assessments. Results are used to inform PMI's business strategy, including to identify key water management actions that need

			to be undertaken in the future. Since the physical risks of climate change have the potential to significantly impact our business, we have conducted climate risks assessments which consider 2030 and 2040 scenarios since that is when we start seeing climate trends shift. This time horizon was also selected as it is also aligned with our risk planning and climate change Science Base Targets, allowing us to implement actionable goals with tangible long-term effects that impact our business (16-20 years versus 50 years).
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	16-20	PMI's goal is to minimize the amount of water used per unit manufactured (cigarette or heated tobacco unit). For this reason, water related issues are included in the company's strategy for achieving long-term objectives. Our strategy is aligned with our annual Long Range Planning process and includes several water issues such as water efficiency in manufacturing operations, water stewardship, water use in agriculture and water basins, and others. Examples of these include the development of water targets and projects in the supply chain. In addition, PMI's Board of Directors believes that environmental, social, and governance factors relevant to the business are critical to PMI's long-term success. Part of the Board's oversight is a focus on management's efforts to enhance shareholder value responsibly and sustainably. The Board's sustainability oversight was more formally established at the beginning of 2018 and it was given the mandate to oversee the sustainability strategy and performance. With the ongoing challenge of water security, we find it important to look further into the future. We have conducted climate risks assessments which have looked out to 2030 and 2040 since that is when we start seeing climate trends shift. This time horizon was also selected as it is also aligned with our risk planning and climate change goals, allowing us to implement actionable goals with tangible long-term effects that impact our business (16-20 years versus 50 years).
Financial planning	Yes, water-related issues are integrated	16-20	Sustainable tobacco production is key for PMI and the company has set goals and developed strategic plans to mitigate water risks such as droughts, floods and cyclones and promote a more resilient agricultural supply chain. As PMI is working towards achieving these goals, human and financial resources are allocated into long-term financial planning to tackle climate change and physical water related issues. For example, as part of the implementation of Good Agricultural Practices, PMI has engaged tobacco and clove suppliers to improve crop management practices, including investment in sound and more sustainable irrigation practices, water and soil conservation



		<p>plans, and development of drought and flood tolerant varieties. Another example of how water issues are integrated in financial planning is the water risk assessment. PMI annually allocates a budget for this exercise, and its results are used to inform the company’s business and sourcing strategies in the mid and long term to prevent risks of supply disruption and/or potential raising of procurement cost. PMI’s risk assessment looks out to 2030 and 2040 as this is when the majority of risks are expected to materialize in the absence of effective management. The indicated time horizon was selected as it is aligned with our risk planning and climate change goals, allowing us to implement actionable goals with tangible long-term effects that impact our business.</p>
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W7.2

(W7.2) What is the trend in your organization’s water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

100

Anticipated forward trend for CAPEX (+/- % change)

80

Water-related OPEX (+/- % change)

-36

Anticipated forward trend for OPEX (+/- % change)

-10

Please explain



OPEX - a net decrease of 36% in our OPEX driven mostly by improvements done in our new RRP facility in Italy. In 2019 we expect this cost to reduce 10% more. Water-related OPEX is not significant to our business (less than 0.1%).

CAPEX - In 2018 we invested in technologies to reduce and recirculate water in pilot factories, increasing our investment in water project around 100% vs 2017. These investments will be tested during 2019 so that's why we expect a reduction in investment of 80% and if these technologies prove efficient we will extend them to all our smoke-free products' factories to reduce the impact of our new smoke-free products production.

W7.3

(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	Yes	As our business relies on agricultural crops, physical risks are the primary driver for us. We conducted a physical climate risk analysis of our direct operations and our leaf suppliers growing regions using IPCC physical risk scenarios. The climate risk analysis evaluated impacts from the reasonable worst case (RCP 8.5), a prudent application when assessing these risks. Additionally, in 2018 PMI conducted a climate change risk assessment in line with TCFD recommendations. In it PMI identified risks and opportunities for its business under a reference scenario (exploring a decarbonization approach under the existing climate and energy policies) and a 2 degree scenario (aligned with an average global temperature increase below 2 degrees). The assessment considered the importance of water resources for PMI's direct and indirect operations, and looked into several water elements including projected prices of water and their implications, changes in water supply, water stress and others.

W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

Yes

W7.3b

(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?

	Climate-related scenario(s)	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	Other, please specify RCP 8.5	Our evaluation of water security impacts uses the IPCC RCP 8.5 scenario which allows us to model and better understand the potential worst case impacts across our operations and value chain. The scenario analysis uses various metrics including crop loss, business disruption to contextualize risks to our operations in the future. Some of the challenges identified include increased risk of drought and cyclones in some of our tobacco growing regions as well as some of our facilities. For example, in the Philippines, based on our scenario analysis, there is an increasing risk of crop loss from droughts with losses estimated greater than 10 percent and cyclones. This would also affect our manufacturing operations in the region, potentially increasing the number of downtime days in the future.	In comparison to other products, tobacco crop and product manufacturing are not particularly water intensive. To mitigate future challenges, we continue to assess water security in the geographies where our tobacco is grown. In our manufacturing facilities, water is not a major input to conventional tobacco product manufacturing. We also continue to support and invest in growing practices that enable the tobacco crop to be resilient to the changing water scenarios. We continue to reduce water use across our facilities through improvement in water efficiency by implementing new process designs, conservation, and reusing or recycling water where possible.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, but we are currently exploring water valuation practices



Please explain

We joined the Alliance for Water Stewardship (AWS) in 2017, a leading organization dedicated to better managing water within the local watersheds. We successfully piloted the adoption of the AWS Standard in our factory in Brazil and developed a toolbox for wider implementation. In March 2018, our factory became the first factory to be AWS certified in the country.

Based on the results and learnings from this pilot, we are currently rolling out the AWS Standard globally. As a priority, we plan to certify by 2020 the ten factories which ranked highest in our previous water risk assessment and to extend the AWS certification to the rest of our factories by 2025. As PMI moves forward on its certification targets it will explore water valuation practices in more detail.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	PMI is committed to be a good water steward by minimizing water use and effluent discharge in our factories; assessing water risks where we operate and working with stakeholders in shared watersheds towards the four water stewardship outcomes (good water governance, sustainable water balance, good water quality and habitat protection); and implementing good agricultural practices in our tobacco supply chain. We understand that setting company-wide science-based targets for GHG carbon reductions, doesn't cover water withdrawal on which consumption, and pollution typically have an impact only in the basin in which they occur. That's why our approach to reduce PMI's impact on water resources is focused on reducing water intensity per unit manufactured (cigarette or heated tobacco unit). We work to understand the water risks in our operations, agricultural and non- agricultural supply chain and then create specific targets to mitigate any risks. An example is our target to certify all our top 10 highest water stressed factories by 2020 against the Alliance for Water Stewardship standards, with all other factories targeted by 2025.

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Water withdrawals

Level

Company-wide

Primary motivation

Water stewardship

Description of target

In 2015, we exceeded our goal to reduce 20% our water withdrawals in all our manufacturing facilities from a 2010 baseline. We focus on future water demands that PMI will face from transitioning to smoke-free products and the company set an interim company-wide target to annually reduce total water withdrawals by 1%. This target is measured per unit of production (sold cigarette equivalent), from 2016 to 2018. PMI set this target to focus on achieving a better understanding of its future operational water demands, as well as to achieve water security by identifying and reducing water demand in key parts of the manufacturing process. As we convert more factories to produce smoke-free products, we will be resetting our target baseline level to reflect the new production process and relative difference in water withdrawals. PMI water reduction targets will continue to focus in reducing the company's overall water withdrawals at the company wide level.

Quantitative metric

Other, please specify

% reduction per unit of product sold

Baseline year

2010

Start year

2017

Target year

2018

% achieved

0

Please explain

In 2018, we were not able to improve our water intensity vs 2010 baseline 5.35 m3/mio sold cigarette equivalent. The result has been heavily impacted by the increase of production of our new smoke-free products which requires approximately four times more water per unit of product than conventional cigarettes. Our efforts are geared towards improving water efficiency throughout that process by implementing new technologies to recycle and reuse water, and by using rainwater harvesting where feasible, with a view to minimize water discharge.

Notice: In previous years PMI reported a water target categorized as a 'water consumption target'. However, this was rather a confusion during the selection of the target's category. Both the target and the reported values actually refer to the company's 'water withdrawal' target. This target has been re-categorized in 2018 to reflect the company's actual target and progress.

Target reference number

Target 2

Category of target

Water withdrawals

Level

Company-wide

Primary motivation

Water stewardship

Description of target

In 2015, we exceeded our goal to reduce 20% our water withdrawals in all our manufacturing facilities from a 2010 baseline. We focus on future water demands that PMI will face from transitioning to smoke-free products and, the company set an interim target to annually reduce total water withdrawals by 1%, from 2016 to 2018. PMI set this target to focus on achieving a better understanding of its future water demands, as well as to achieve water security by identifying and reducing water withdrawals from new manufacturing processes. As we convert more factories to produce smoke-free products, we will be resetting our target baseline level to reflect the new production process and relative difference in water withdrawals.

Quantitative metric

% reduction in total water withdrawals

Baseline year

2010

Start year

2017

Target year

2018

% achieved

100

Please explain

In 2018, we were able to improve our water withdrawn average volumes from baseline 4,998,953 m3 to 4,371,440 in 2018 so average year on year of 1.6%. The result has been achieved thanks to our efforts to improve water efficiency through implementing new technologies to recycle and reuse water, and by using rainwater harvesting where feasible, with a view to minimum water discharge partially compensated by the increase of production of our new smoke-free products which requires approximately four times more water per unit of product than conventional cigarettes

Notice: In previous years PMI reported a water target categorized as a 'water consumption target'. However, this was rather a confusion during the selection of the target's category. Both the target and the reported values actually refer to the company's 'water withdrawal' target. This target has been re-categorized in 2018 to reflect the company's actual target and progress.

Target reference number

Target 3

Category of target

Community engagement

Level

Site/facility

Primary motivation

Risk mitigation

Description of target

The AWS Standard is a globally applicable framework for major water users to understand their water use and impacts as well as to work collaboratively for sustainable water management in a catchment context. PMI uses this Standard to engage local communities and other users in the catchment area such as local authorities, farmers and others on different water issues such as good water governance, sustainable water balance, WASH, good water quality and others. Achieving an effective water management at the catchment level will allow PMI to avoid water conflicts and achieve water security. PMI created a roadmap to assess and certify its 10 manufacturing facilities with the highest water risks under the Alliance for Water Stewardship by 2020. After our first pilot in Brazil we plan to extend our efforts globally by 2025 and hope this commitment will inspire other companies in our value chain and beyond to take similar steps on water stewardship.

Quantitative metric

Other, please specify

Number of sites certified by AWS



Baseline year

2010

Start year

2017

Target year

2020

% achieved

60

Please explain

We joined the Alliance for Water Stewardship (AWS) in 2017, a leading organization dedicated to better managing water within the local watersheds. We successfully piloted the adoption of the AWS Standard in our factory in Brazil and developed a toolbox for wider implementation. In March 2018, our factory became the first factory to be certified by AWS in the country. Based on the results and learnings from this pilot, we are rolling out the AWS Standard globally. As a priority, we plan to certify by 2020 the ten factories which ranked highest in our previous risk assessment and to extend to the rest of our factories by 2025.

Target reference number

Target 4

Category of target

Water pollution reduction

Level

Other, please specify
Tobacco supply chain

Primary motivation

Reduced environmental impact

Description of target

We are aware that the use of fertilizers and pesticides in our agricultural supply chain can cause water pollution, which would damage natural ecosystems and affect the company's operations, and other water users. To prevent negative impacts on water ecosystems, maintain water quality and achieve long term water security PMI has set targets to eliminate WHO TOX1 pesticides by 2018, and other Highly Hazardous Pesticides (HHPs) as defined by FAO/WHO guidelines by 2020. PMI set these targets following recommendations for the classification of highly hazardous pesticides by FAO and WHO. PMI engages its tobacco supply chain through its Good Agricultural Practices program, and monitors progress on this target annually at the supplier level.

Quantitative metric

% reduction in concentration of pollutants

Baseline year

2015

Start year

2015

Target year

2020

% achieved

94.2

Please explain

PMI is testing 100% of its tobacco purchased for pesticides residues. PMI is making important steps towards the elimination of WHO TOX1 and other HHPs. In 2018, 100% of our tobacco purchase did not contain any WHO TOX1 and 94.2% was free from HHPs.

W8.1b

(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.

Goal

Engagement with suppliers to help them improve water stewardship

Level

Basin level

Motivation

Water stewardship

Description of goal

The AWS Standard is a globally applicable framework for major water users to understand their water use and impacts as well as to work collaboratively for sustainable water management in a catchment context. PMI uses this Standard to engage suppliers and other users in the catchment area such as local authorities, local communities and others on different water issues such as good water governance, sustainable water balance, WASH, good water quality and others. Achieving an effective water management at the catchment level will allow PMI to avoid water conflicts and achieve water security.

As part of the local Alliance for Water Stewardship roll out in our factories, we are engaging local suppliers (tobacco suppliers, farmers or direct material suppliers) to promote the standard and exchange best practices. By 2020, we plan to have 10 of our sites AWS certified and all our major sites by 2025. This is an important goal because it promulgates the use of the AWS international standard for sustainable water use within the organization. This reinforces our commitment to a rigorous and data driven approach to evaluating water. Our AWS team and our employees on site are fully engaged to ensure that our factory meets the AWS standard, including engaging with local authorities, the farming community and civil society groups.

Baseline year

2017

Start year

2017

End year

2025

Progress

In 2017, we started to pilot the Alliance for Water Stewardship (AWS) Standard, successfully certifying our site in Brazil in 2018. Furthermore throughout 2018, we expanded the implementation of the AWS Standard at a further five sites – in Italy, Portugal, Indonesia, Russia, and Turkey, as part of the program to certify all factories by 2025. PMI uses the number of certified sites as indicator of success. The progress against the target is measured by the number of sites successfully AWS certified and in the process of being AWS certified, being in line with our target. PMI considers 10 factories certified by 2020 and the full adoption of the standard in the remaining factories by 2025 as the threshold of success. Through the AWS certification process, we engaged actively with more than one supplier per site in the catchment area including water suppliers, tobacco farmers/suppliers or paper suppliers, in line with our goal.

Goal

Promotion of sustainable agriculture practices

Level

Basin level

Motivation

Risk mitigation

Description of goal

Water scarcity is a global issue linked with climate change, which could have a direct impact on PMI's agricultural supply chains. PMI has identified that more than 90% of its water footprint can be linked to its supply chain (tobacco suppliers alone are responsible for 51% of the water footprint), where suppliers use it as a key element for the production of raw materials. For this reason, promoting sustainable agricultural practices that mitigate water risks is key for the company's long term water and business security. PMI is committed to achieve a sustainable management of water resources at the basin level. Thus, PMI is working with all its agricultural suppliers through its Good Agricultural Practices (GAP) program. As part of GAP, PMI engages suppliers to develop and implement water conservation plans that achieve rational use of water resources and incorporate best available irrigation practices at the local level, including efficient irrigation systems such as drip irrigation, timing,

and amount of water distributed, based on water use efficiency measurements. PMI rolled out GAP in 2002 and monitors its success on an annual basis.

Baseline year

2007

Start year

2007

End year

2030

Progress

PMI measures progress for this goal on an annual basis, through the use of water related indicators as part of the Good Agricultural Practices (GAP) program. The set of indicators, as well as the specific goals vary within basins, as production conditions are significantly different within PMI's agricultural supply chain. Some of the measured indicators include reductions in water withdrawal rates, number of farmers adopting drip irrigation (or other smart irrigation practices) and other similar metrics. An example of this is the monitoring of farmers' progress on the adoption of sustainable water management practices. PMI monitors adoption rates of drip irrigation practices for tobacco production in Italy. In 2018, we estimated that our engagement has resulted in more than 70% of the tobacco purchased by PMI in Italy being produced in areas with drip irrigation systems in place. PMI is aiming to continue engaging farmers to achieve a 100% adoption rate of drip irrigation by 2030. In Italy, PMI considers 100% farmers' adoption rate of drip irrigation by 2030 as the threshold of success.

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Decreased energy use

Description of linkage/tradeoff

Energy is often required to drive water-consuming processes like humidification, refrigeration (e.g. water cooled towers) or steam production. Improving the efficiency of processes and equipment supports the reduction of both water and energy consumption. To facilitate this, our Energy Management Program (EMP) was developed to help achieve our CO₂e scope 1 and 2 reduction target of 30% by 2020 compared to our 2010 baseline for our manufacturing affiliates. This program, although focusing on energy, also delivers water savings. The management focus provided by the EMP provides a context for general resource optimization. Based on this program, we have made improvements around the world including: Steam-system optimization or reduction and efficient humidification systems in more than 10 countries. PMI's GHG and water footprints were 5,504 tons CO₂e (scope 1, 2 and 3) and 4,371 megaliters in 2018.

Policy or action

PMI introduced its Energy Management Program (EMP), which is used to develop projects that reduce water and energy consumption within the company's manufacturing facilities. Some of EMP's areas of intervention include: Optimization of steam systems that results in decreases in both energy and water use; Installation of energy and water metering devices at all facilities to allow a better understanding of water consumption and targeted improvement actions; Development and use of a "Ready mode" on specific equipment to reduce the consumption of electricity, gas, steam and water; Installation of new high efficiency chillers to improve both electricity and water consumption. For example, in our Indonesia factory, we upgraded our chilled water system and saved energy, water, and money. These actions are part of PMI's strategy to reduce GHG emissions as well as water consumption in key facilities and regions. During 2018, PMI estimates to have reduced its scope 1 and 2 emissions through EMP interventions by approximately 46 tCO₂e.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Other, please specify

Increase tobacco crop yield

Description of linkage/tradeoff

Future scenarios of increasing population and climate change pose additional focus on soil and water sustainable management and farmer productivity gains have a key role to play. PMI launched Good Agricultural Practices (GAP) in 2002, which promotes practices to improve farmers' yields and crop quality through efficient water management. Yield increase is linked to a reduction in GHG and increased water efficiency while improving farmer income and the access to land for food crops, helping strengthen food security and nutrition. Through the adoption of GAP, based on internal data collection conducted over the last 8 years in PMI sourcing countries, we estimate a yearly average yield increase (kg per hectare) of around 2.5%. The increased productivity per hectare can be used as a proxy to estimate around 2.5% net reduction per year in terms of land cropped to grow tobacco to fulfill PMI requirements and an equal water efficiency gain which create a positive impact on the environment.

Policy or action

PMI is committed to the sustainable production of tobacco in conditions that limit as much as possible the impact on the natural environment, and that improve the socioeconomic circumstances of the people and communities involved in its production. PMI, via its Global Agricultural Practices (GAP) program, focuses actions to enable tobacco farmers to have access to the information, systems and tools needed to be successful business owners who minimize the environmental impacts of their activities builds a sustainable supply chain in the long term, and aims to create a positive impact on livelihood of local farming communities; this entails management of their water resources and risks such as water access and sufficient availability for sustainable development. Working with our suppliers and farmers to understand and better manage their water resources and risks will create a more resilient supply chain. We regularly review Climate Change elements impacting tobacco growing areas in order to adapt GAP implementation, with the aim to further increase yield while minimizing impact on the environment; as an example we actively research drought and flood tolerant tobacco seed varieties. The increased productivity per hectare can be used as a proxy to estimate around 2.5% net reduction per year in terms of land cropped to grow tobacco to fulfill PMI requirements as well equal water efficiency gain which create a positive impact on the environment.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

Yes

W10.1a

(W10.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1. Current state	The STP process includes: • Annual self-assessments completed by tobacco suppliers (reviewed by AB Sustain); • On-site audits conducted by AB Sustain to a sample of contracted farmers; and • Comprehensive review of tobacco suppliers' policies, procedures, and documentation; and monitoring and proof demonstrating the level of STP/GAP implementation.	Other, please specify Sustainable Tobacco Production verification by AB Sustain	GAP has been in place since 2002, and since 2016 we have been assessing conformity of tobacco suppliers and farmers with our GAP standards through the industry-wide Sustainable Tobacco Program (STP) managed by AB Sustain, an independent supply chain management specialist. One of the outcomes of the assessment is an independent performance rating against all STP criteria. AB Sustain conducted STP assessments in all suppliers' locations over the last three years; in 2018, they assessed suppliers in 11 countries (2017: 8).
W3. Procedures	The STP process includes: • Annual self-assessments completed by tobacco suppliers (reviewed by AB Sustain); • On-site audits conducted by AB Sustain to a sample of contracted farmers; and • Comprehensive review of tobacco suppliers' policies, procedures, and documentation; and	Other, please specify Sustainable Tobacco Production verification by AB Sustain	GAP has been in place since 2002, and since 2016 we have been assessing conformity of tobacco suppliers and farmers with our GAP standards through the industry-wide Sustainable Tobacco Program (STP) managed by AB Sustain, an independent supply chain management specialist. One of the outcomes of the assessment is an

	monitoring and proof demonstrating the level of STP/GAP implementation.		independent performance rating against all STP criteria. AB Sustain conducted STP assessments in all suppliers' locations over the last three years; in 2018, they assessed suppliers in 11 countries (2017: 8).
W4. Risks and opportunities	The STP process includes: • Annual self-assessments completed by tobacco suppliers (reviewed by AB Sustain); • On-site audits conducted by AB Sustain to a sample of contracted farmers; and • Comprehensive review of tobacco suppliers' policies, procedures, and documentation; and monitoring and proof demonstrating the level of STP/GAP implementation.	Other, please specify Sustainable Tobacco Production verification by AB Sustain	GAP has been in place since 2002, and since 2016 we have been assessing conformity of tobacco suppliers and farmers with our GAP standards through the industry-wide Sustainable Tobacco Program (STP) managed by AB Sustain, an independent supply chain management specialist. One of the outcomes of the assessment is an independent performance rating against all STP criteria. AB Sustain conducted STP assessments in all suppliers' locations over the last three years; in 2018, they assessed suppliers in 11 countries (2017: 8).
W7. Strategy	The STP process includes: • Annual self-assessments completed by tobacco suppliers (reviewed by AB Sustain); • On-site audits conducted by AB Sustain to a sample of contracted farmers; and • Comprehensive review of tobacco suppliers' policies, procedures, and documentation; and monitoring and proof demonstrating the level of STP/GAP implementation.	Other, please specify Sustainable Tobacco Production verification by AB Sustain	GAP has been in place since 2002, and since 2016 we have been assessing conformity of tobacco suppliers and farmers with our GAP standards through the industry-wide Sustainable Tobacco Program (STP) managed by AB Sustain, an independent supply chain management specialist. One of the outcomes of the assessment is an independent performance rating against all STP criteria. AB Sustain conducted STP assessments in all suppliers' locations over the last three years; in 2018, they assessed suppliers in 11 countries (2017: 8).
W8. Targets	The STP process includes: • Annual self-assessments completed by tobacco suppliers (reviewed by AB Sustain); • On-site audits conducted by AB Sustain to a sample of contracted farmers; and • Comprehensive review of tobacco	Other, please specify Sustainable Tobacco Production	GAP has been in place since 2002, and since 2016 we have been assessing conformity of tobacco suppliers and farmers with our GAP standards through the industry-wide Sustainable Tobacco Program (STP) managed by



	suppliers' policies, procedures, and documentation; and monitoring and proof demonstrating the level of STP/GAP implementation.	verification by AB Sustain	AB Sustain, an independent supply chain management specialist. One of the outcomes of the assessment is an independent performance rating against all STP criteria. AB Sustain conducted STP assessments in all suppliers' locations over the last three years; in 2018, they assessed suppliers in 11 countries (2017: 8).
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W11. Sign off

W-FI

(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Andre Calantzopoulos, Chief Executive Officer (CEO)	Chief Executive Officer (CEO)

W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes



Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms